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CONCHIOLOGIA ICONICA

ILLUSTRATIONS

SHELLS OF MOLLUSCUS ANIMALS

Vol. I.

Published by the Author.

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CONCHOLOGIA ICONICA:
OR,
ILLUSTRATIONS
OF THE
SHELLS OF MOLLUSCOUS ANIMALS.

VOL. XIV.

CONTAINING MONOGRAPHS OF THE GENERA

HALIA.	CHONDROPOMA.	CHAMOSTREA.
CONCHOLEPAS.	ADAMSIELLA.	VENUS.
ZIZYPHINUS.	ANASTOMA.	DIONE.
TEREBELLUM.	TRIDACNA.	CIRCE.
PALUDINA.	HIPPOPUS.	CYTHEREA.
CYCLOTUS.	ANATINA.	TAPES.
PTEROCYCLOS.	TUGONIA.	MEROË.

BY

LOVELL AUGUSTUS REEVE, F.L.S., F.G.S.,

CORRESPONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF WÜRTEMBERG, OF THE LYCEUM OF NATURAL HISTORY OF
NEW YORK, OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, AND OF THE
ZOOLOGICO-BOTANICAL SOCIETY OF VIENNA.

“O, quantum Natura varia est! componit, coagmentat, separat,
iterum jungit, ludit quoque, ut fallere videatur; sed manet simplissima,
manet veridica natura:—post Biblia sacra, nullus mihi carior libro
naturæ.”—*Klein*.

LONDON:

LOVELL REEVE & CO., HENRIETTA STREET, COVENT GARDEN.

1864.

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14



RECIA

MONOGRAPH
OF THE GENUS
H A L I A.

“Meditation here
May think down hours to moments.”—*Cowper*.

MONACHICUM

1710







1.a.



1.c.



1.d.



1.b.

HALIA.

PLATE I.

Genus HALIA, Risso.

Testa oblongo-ovata, ventricosa, tenuicula, spirā subexsertā, apice obtusā, anfractibus quinque ad sex, lævigatis, subcorneis, supernè obtusè declivi-angulatis, columellā arcuatā, versus basin calloso-involutā, truncatā; aperturā amplā, supra et infra sinuatā, labro simplici.

Shell oblong-ovate, ventricose, rather thin, spire somewhat exserted, obtuse at the apex, whorls five to six, smooth, slightly horny, obtusely slopingly angled, columella arched, callously involute towards the base, truncated; aperture large, sinuated above and below, lip simple.

The very characteristic shell, of which back and front views of two specimens are given in the accompanying plate, appears to have been first known about the same time in Germany and England, between eighty and ninety years ago. In Germany it was named by Meuschen, in the Catalogue of the Gronovian Museum (1778), *Helix Priamus*, indicative of its belonging to a terrestrial mollusk. In England its generic character and habitat were more correctly designated, for it was named by Martyn in his 'Universal Conchologist,' *Buccinum ficus*, from Spain, and illustrated by two very beautiful drawings.

Various conjectures have been made by naturalists as to its place in the system, some referring it to *Bulla*, but the greater number, including all the higher authorities,—Bruguière, Lamarck, Férussac,—have inclined to the opinion that it must belong to a land snail of the *Glandina* section of *Achatina*. After the lapse of more than half a century, the notion of its being the shell of a sea mollusk was revived by the Danish conchologist, Dr. Beck, who became possessed of some new information on the subject, which he communicated to M. Deshayes while engaged upon his edition of Lamarck's *Anim. sans vert.* In vol. viii. of that work, in a note to p. 300, published in 1838, M. Deshayes announced that the shell under consideration could no longer remain in *Achatina*, Dr. Beck having informed him that it belonged to a marine operculated mollusk living in the seas of Spain and Portugal, and that it must henceforth rank as a new genus allied to *Buccinum*, for which the old specific name of *Priamus* was proposed. This information helped to confirm the original statement of Martyn which has been overlooked by all subsequent writers, that the shell was a "*Buccinum* from Spain;" but the intimation conveyed by Dr. Beck, that the animal is operculated, has been since shown to be erroneous.

In 1846 it was discovered by Herrmannsen that the *Priamus* is identical with a fossil of the miocene beds of Turin, named by Brocchi *Bulla helicoides* (Conch. Foss. Subapp. 1814, p. 283), for which Risso had in 1826 (Hist. Nat. Prod. Europe Mérid. vol. iv.) proposed a new genus with the name of *Halia*. No doubt is now entertained of the recent *Helix Priamus* of Meuschen being identical with the fossil *Bulla helicoides* of Brocchi, and now that our knowledge of the animal justifies us in making it the type of a separate genus the generic name of *Priamus* gives way to that of *Halia*, proposed twelve years before by Risso.

In 1858 all doubt as to the character and habits of this mollusk were set at rest in an able monograph by M. P. Fischer, of Paris, published in the third volume of the second series of the 'Journal de Conchyliologie.' M. Fischer already possessed a fragment of the animal, collected by a French botanist, M. Picard, travelling on the coast of Spain, when a more perfect specimen, preserved in spirits, sent to him by a Spanish gentleman, M. de Elizalde, enabled him to complete the anatomy. The result of M. Fischer's dissection went to show that there were no traces of an operculigerous lobe nor of any operculum, and that in the principal features of its organization the animal is nearest allied to the inoperculated *Defrancia* section of *Pleurotoma*.

Another specimen of *Halia*, with the animal, lately received from Vigo Bay by Mr. Darbishire, of Manchester, has, I believe, been submitted for dissection to the care of Mr. Albany Hancock, of Newcastle.

Species 1. (Fig. *a, b*, Mus. Cuming; Fig. *c, d*, Mus. Newman Smith.)

HALIA PRIAMUS. *Hal. testā ovatā, tenuiculā, ventricosā, fulvo-spadiceā, subcorneā, maculis rubro-castaneis quadratis subremotis, nisi circa anfractuum partem superiorem, fasciatim aspersā, anfractibus lævibus, nitentibus, interdum quasi encausticis, vel longitudinaliter arcuatim plicato-striatis, columellā arcuatā, callosā, subcontortā; aperturā amplā, utrinque sinuatā, labro simplici.*

THE PRIAM HALIA. Shell ovate, rather thin, ventricose, fulvous-fawn, rather horny, sprinkled except about the upper part of the whorls with bands of distant square reddish-chestnut spots, whorls smooth, shi-

August, 1863.

ning, sometimes as though enamelled, or longitudinally arcuately plicately striated, columella arched, callous, slightly twisted; aperture large, sinuated at both ends, lip simple.

Helix Priamus, Meuschen, Cat. Mus. Gronov. no. 1355.

Buccinum ficus, Martyn, Univ. Conch. vol. iii. pl. 81.

Buccinum stercus-pulicum, Chemnitz.

Bulla stercus pulicum, Gmelin.

Bulimus Priamus, Bruguière.

Bulla helicoides, Brocchi.

Bulla Priamus, Dillwyn.

Ampulla Priamus, Bolten.

Achatina Priamus, Lamarck.

Helix (Cochlicopa) Priamus, Férussac.

Halia helicoides, Risso.

Priamus stercus-pulicum, Beck.

Achatina maculata, Swainson.

Halia stercus-pulicum, Herrmannsen.

Priamus helicoides, Sismonda.

Halia Priamus, Woodward.

Hab. Atlantic coast of Spain.

The glairy enamel-like surface of this shell shows that it is largely enveloped by the mantle of the animal; in most specimens the permanent contact of the mantle to the under surface being widely marked. It is always of a peculiar fulvous-fawn or nankeen colour, sprinkled in the suture and below the angle of the whorls with bands of small square distant reddish-chestnut spots. The plicate sinuation of the lines of growth at the suture indicates a development of shell-matter somewhat analogous to the growth of the shells of the family to which M. Fischer inclines to refer it.

HALIA.

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Numerous specimens of *Halia* have been lately received both in France and England from Cadiz, and no doubt remains but that this interesting mollusk is an inhabitant of the bay lying between Capes St. Vincent and Trafalgar.

Species 1. (Fig. a, b, Mus. Cuming; Fig. c, d, Mus. Newman Smith.)

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August, 1863.

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Achatina maculata, Swainson.

Halia stercus-pulicum, Herrmannsen.

Priamus helicoides, Sismonda.

Halia Priamus, Woodward.

Hab. Off Cadiz.

The glairy enamel-like surface of this shell shows that it is largely enveloped by the mantle of the animal; in most specimens the permanent contact of the mantle with the under surface being widely marked. It is always of a peculiar fulvous-fawn or nankeen colour, sprinkled in the suture and below the angle of the whorls with bands of small square distant reddish-chestnut spots. The plicate sinuation of the lines of growth at the suture indicates a mode of growth in the shell somewhat analogous to the growth of the shells of the *Defrancia* group, to which M. Fischer inclines to refer it.

MONOGRAPH
OF THE GENUS
CONCHOLEPAS.

"Where rose the mountains, there to him were friends ;
Where roll'd the ocean, thereon was his home."—*Byron*.

MONOGRAPH

OF THE GENUS

COLEOPTERA

BY J. S. GILBERT



CONCHOLEPAS.

PLATE I.

Genus CONCHOLEPAS, Lamarck.

Testa ovata, ventricosissima, spirâ minutâ, anfractibus tribus, rapidissimè accrescentibus, ultimo peramplo, aperturâ patulâ, ad basin modicè canaliculatâ, labro continuo, juxta canalem bidentato. Operculum corneum, parviusculum.

Shell ovate, extremely ventricose, spire minute, whorls three, increasing very rapidly, last whorl very large, aperture wide open, moderately channelled, lip continuous, two-toothed next the canal. Operculum horny, rather small.

Concholepas is a form of *Purpura* inhabiting the western coast of South America, from Ecuador to Cape Horn, round to the eastern shores of Tierra del Fuego. The growth of the shell is limited to three whorls, and so small, consequently, is the spire that it has very much the appearance of a Limpet. The sculpture radiates from the apex in ribs and ridges, and these are mostly imbricated with concentric frills of scales. As in *Purpura* and *Monoceros*, the aperture is notched and toothed at the base, the lip being continuous in an expanded form over the columella. I venture to characterize two species.

Species 1. (Fig. a to d, Mus. Cuming.)

CONCHOLEPAS PERUVIANUS. *Conch. testâ ovalâ, ventricosâ, rufescente-brunneâ, in testâ juniore interdum albo-maculatâ, radiatim costatâ et liratâ, costis liris-que subirregularibus, concentricè plus minus fimbriato-squamatis.*

THE PERUVIAN CONCHOLEPAS. Shell ovate, ventricose, reddish-brown, sometimes blotched in the young shell with white, radiately ribbed and ridged, ribs and ridges rather irregular, concentrically more or less fimbriately scaled.

LAMARCK, Anim. sans vert. vol. 10. p. 126.

Buccinum concholepas, Bruguière.

Patella lepas, Gmelin.

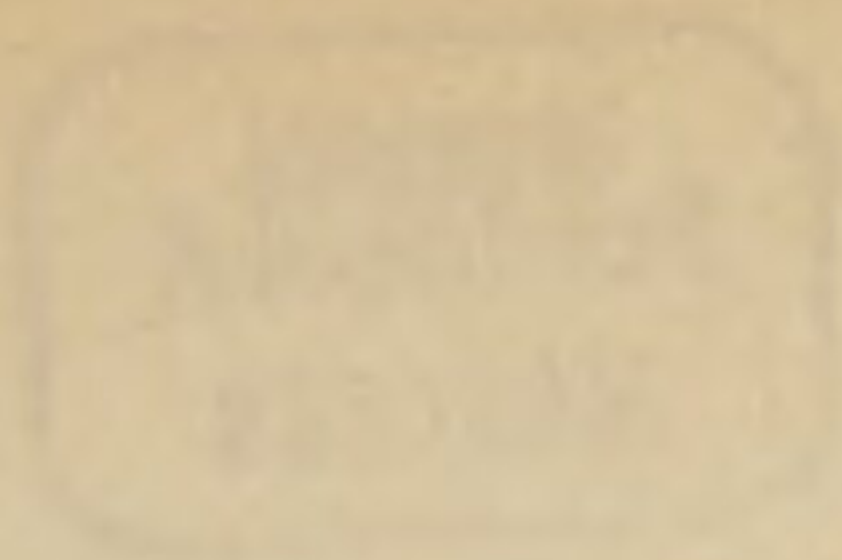
Buccinum lepas, Burrows.

Purpura Peruviana, De Blainville.

Hab. Peru.

The typical state of this species is with the outer surface elaborately imbricated with concentric frills of scales. Specimens are, however, found with the scales almost obsolete. In the young shell there are mostly blotches of white.

June, 1863.



COLLECTIONS

1892

THE MUSEUM OF COMPARATIVE ZOOLOGY

This book contains a list of the specimens of the
Mammalia, Birds, Reptiles, Fishes, and Insects,
collected by the members of the Museum of Comparative Zoology,
during the year 1892. The list is arranged in alphabetical order,
and gives the name of the collector, the date of collection,
the locality, and the number of the specimen in the collection.
The list is divided into two parts, the first part containing the
names of the specimens, and the second part containing the
descriptions of the specimens. The list is arranged in alphabetical order,
and gives the name of the collector, the date of collection,
the locality, and the number of the specimen in the collection.



2b.



2c.



2a.

CONCHOLEPAS.

PLATE II.

Species 2. (Fig. *a, b, c*, Mus. Cuming.)

CONCHOLEPAS OBLONGUS. *Conch. testâ oblongo-ovatâ, ad basin subattenuatâ, nigricante-brunneâ, radiatim liratâ, liris subirregularibus, rudibus, obsoletè nodulatis.*

THE OBLONG CONCHOLEPAS. Shell oblong-ovate, somewhat attenuated towards the base, blackish-brown, radiately ridged, ridges rather irregular, rude, obsoletely noduled.

Hab. Cape Horn, and Bay of Good Success, East Tierra del Fuego.

Mr. Cuming has long kept this oblong form of *Concholepas* separate from his numerous varieties of the Peruvian species. It is from Cape Horn and the East side of Tierra del Fuego. Time will show whether its characteristic proportions and rude blunted sculpture are permanent.

June, 1863.

MONOGRAPH

OF THE GENUS

ZIZYPHINUS.

"O Nature ! by impassioned hearts alone
Thy genuine charms are felt. The vulgar mind
Sees but the shadow of a power unknown."—*Pringle*.

to, at
Spring

MONOCRYSTAL

OF THE

STYRENE

of the

of the

ZIZYPHINUS.

<i>agrestis</i> (Trochus), Philippi . . .	III.	16	<i>luridus</i> , Nuttall	IV.	24
<i>alabastrum</i> (<i>Margarita</i>), Beck .	VII.	46	<i>Lyonsii</i> (Trochus), Leach	III.	16
<i>albus</i> (Trochus), Wood	III.	16	<i>MacAndreæ</i> , Carpenter	VII.	50
<i>annulatus</i> (<i>Trochus</i>), Martyn . .	II.	13	<i>Martini</i> (Trochus), Smith	V.	30
<i>Antonii</i> (<i>Trochus</i>), Koch	V.	31	<i>Matoni</i> (Trochus) Payraudeau .	VII.	54
<i>armillatus</i> (<i>Trochus</i>), Wood . . .	III.	19	<i>miliaris</i> (Trochus), Scacchi . . .	V.	30
<i>articulatus</i> , Reeve	I.	3	<i>millegranus</i> (<i>Trochus</i>), Philippi .	V.	30
<i>bicingulatus</i> (<i>Trochus</i>), Lamarck	III.	20	<i>minimus</i> (Trochus), Chemnitz . .	VII.	54
<i>callichrous</i> (<i>Trochus</i>), Philippi .	VIII.	60	<i>minutus</i> (Trochus), Dillwyn . . .	VIII.	62
<i>canaliculatus</i> (<i>Trochus</i>), Martyn	III.	18	<i>monile</i> , Reeve	VI.	39
<i>castaneus</i> (Trochus), Gould . . .	IV.	27	<i>Montagui</i> (<i>Trochus</i>), Gray . . .	VIII.	57
<i>castra</i> , Reeve	II.	14	<i>nebulosus</i> , Adams	II.	7
<i>chlorostoma</i> (<i>Trochus</i>), Menke .	IV.	26	<i>nobilis</i> (<i>Trochus</i>), Philippi . . .	II.	10
<i>ciliaris</i> (Trochus), Menke	III.	16	<i>ocellatus</i> , Reeve	VIII.	61
<i>Clelandi</i> (Trochus), Wood	V.	30	<i>ornatus</i> (<i>Trochus</i>), Lamarck . .	II.	7
<i>comptus</i> , Adams	VII.	48	<i>parvus</i> (Trochus), Da Costa . . .	VI.	37
<i>conicus</i> , (Trochus), Donovan . . .	VI.	37	<i>picturatus</i> , Adams	VII.	53
<i>conuloides</i> (<i>Trochus</i>), Lamarck .	III.	16	<i>polychroma</i> , Adams	VI.	40
<i>conulus</i> (<i>Trochus</i>), Linnæus . . .	IV.	22	<i>pulchellus</i> (<i>Trochus</i>), Philippi .	VI.	42
<i>conulus</i> (Trochus), Da Costa . .	VIII.	62	<i>punctatus</i> (Trochus) Renieri . . .	VII.	54
<i>crenulatus</i> (<i>Trochus</i>), Brocchi . .	VII.	54	<i>punctulatus</i> (Trochus), Dillwyn .	VII.	54
<i>Cunninghamii</i> , Gray	I.	6	<i>punctulatus</i> (Trochus), Gmelin . .	VI.	37
<i>decoratus</i> (<i>Trochus</i>), Philippi . .	IV.	28	<i>pyramidatus</i> (Trochus), Lamarck	VII.	54
<i>decussatus</i> , Adams	VIII.	65	<i>pyramis</i> (<i>Trochus</i>), Gmelin . . .	VI.	41
<i>depictus</i> (Trochus), Deshayes . .	VI.	37	<i>rubro-punctatus</i> , Adams	VIII.	56
<i>discrepans</i> (Trochus), Brown . . .	III.	16	<i>Sartorii</i> (Trochus), Aradas . . .	VI.	37
<i>doliarius</i> (Trochus), Chemnitz . .	III.	18	<i>scitulus</i> , Adams	VI.	44
<i>duplicatus</i> , Adams	VII.	55	<i>scobinatus</i> , Adams	V.	29
<i>elegantulus</i> , Adams	VI.	38	<i>selectus</i> (<i>Trochus</i>), Chemnitz . .	I.	1
<i>erythroleucus</i> (Trochus), Gmelin	VI.	37	<i>similaris</i> , Reeve	V.	32
<i>erythroleucus</i> (Trochus), Lamarck	VIII.	62	<i>speciosus</i> , Adams	II.	9
<i>euglyptus</i> , Adams	III.	17	<i>spectabilis</i> , Adams	I.	5
<i>exiguus</i> (<i>Trochus</i>), Pulteney . . .	VIII.	62	<i>splendidus</i> , Philippi	II.	11
<i>eximius</i> , Reeve	IV.	25	<i>striatus</i> (Trochus), Forbes . . .	VIII.	57
<i>filosus</i> (<i>Trochus</i>), Wood	IV.	27	<i>striatus</i> (<i>Trochus</i>), Linnæus . .	VI.	37
<i>flammiger</i> , Dunker	VII.	52	<i>strigosus</i> , Adams	VIII.	60
<i>flavus</i> (<i>Trochus</i>), Anton	V.	33	<i>Ticaonicus</i> , Adams	VI.	43
<i>formosus</i> (Trochus), Forbes . . .	VII.	46	<i>tigris</i> (<i>Trochus</i>), Martyn	I.	4
<i>fragum</i> (<i>Trochus</i>), Philippi . . .	VII.	47	<i>Tranquebaricus</i> (<i>Troch.</i>), Chemnitz	III.	15
<i>gemmosus</i> , Reeve	IV.	23	<i>unicinctus</i> , Adams	VIII.	58
<i>granatus</i> (<i>Trochus</i>), Chemnitz . .	I.	2	<i>unicus</i> , Dunker	II.	8
<i>incertus</i> , Reeve	V.	28	<i>vexillum</i> , Adams	VIII.	59
<i>indistinctus</i> (<i>Trochus</i>), Wood . .	V.	35	<i>vinctus</i> (Trochus), Philippi . . .	III.	20
<i>interruptus</i> (<i>Trochus</i>), Wood . .	VIII.	64	<i>virgineus</i> (Trochus), Chemnitz . .	II.	13
<i>Japonicus</i> , Adams	VII.	49	<i>violaceus</i> (Trochus), Risso . . .	IV.	22
<i>jujubinus</i> (<i>Trochus</i>), Gmelin . . .	II.	12	<i>Zebuensis</i> , Adams	VIII.	63
<i>Laugieri</i> (Trochus), Payraudeau .	IV.	22	<i>zezyphinus</i> (Trochus), Chemnitz	II.	12
<i>Leanus</i> (<i>Trochus</i>), C. B. Adams	VI.	45	<i>zizyphinus</i> (Trochus), Lamarck . .	III.	16
<i>ligatus</i> (Trochus), Gould	IV.	27	<i>zonenumber</i> , Adams	III.	21



ZIZYPHINUS.

PLATE I.

Genus ZIZYPHINUS, Leach.

Testa subacutè conica, rarò umbilicata, variè colorata, sæpissime grano-lirata, interdum lævis, aperturâ obliquè subquadratâ, labro simplici, columellâ plus minus callosâ, argenteâ, rarò dentatâ. Operculum corneum, tenue, circulariter spirale.

Shell rather sharply conical, rarely umbilicated, variously coloured, mostly grain-ridged, sometimes smooth, aperture obliquely subquadrate, lip simple, columella more or less callous, silvery, seldom toothed. Operculum horny, thin, circularly spiral.

The genus *Zizyphinus* was proposed by Dr. Leach for the reception of the British species of *Trochus*, six or seven in number, partaking of the general typical character of the well-known Linnæan *Trochus zizyphinus*. At New Zealand and Western Australia this particular generic type is still more characteristically developed; there is, indeed, good ground for believing that the above-named species is possessed by the very remote seas of Europe and Australia in common. The shells are rather sharply conical, mostly sculptured with rows of grains or grained ridges, and the prevailing colour of the species is that of the *Zizyphum*, or Jujube-fruit, a dull flesh-tinged yellow, or yellowish-brown. The columellar axis of the shell is callous and silvery, arched, but rarely ending in a tooth, and still more rarely umbilicated. The operculum is horny, thin, and regularly circularly spiral.

Of about fifty species of *Zizyphinus* inhabiting the eastern hemisphere, at least half are natives of the seas of West Australia and New Zealand, eight are European, one North African, and two Japanese. Eight inhabit the Philippine Islands, Tranquebar, and Malacca, and one the shores of Bombay. Only seven species are referred to this genus from the New World, five from California, Honduras, and Panama, one from Puget Sound, and one from Lord Hood's Island in the Pacific.

Species 1. (Mus. Cuming.)

ZIZYPHINUS SELECTUS. *Zizyph. testâ subdepresso-conoideâ, tumidâ, versus apicem attenuatâ, anfractibus declivi-rotundatis, spiraliter grano-liratis, carneo-albâ aut flavescente, granis irregulariter ustulato-rufo tinctis, colore obscurissimè biseriatim maculato.*

THE CHOICE ZIZYPHINUS. Shell rather depressly conoid, swollen, attenuated towards the apex, whorls slopingly rounded, spirally grain-ridged, flesh-white or yellowish, grains irregularly stained with burnt red, the colour being very obscurely disposed in two rows of blotches.

Trochus selectus, Chemnitz, Conch. Cab. vol. xi. p. 168. pl. 196. f. 1896, 1897.

Hab. New Zealand.

Distinguished from *Z. granatus* by its depressly swollen proportions and the promiscuous burnt-red colouring of the grains, which stand out more conspicuously on a paler ground. Next the suture, and at the periphery of the whorls, the colour is very obscurely disposed in blotches.

Species 2. (Mus. Cuming.)

ZIZYPHINUS GRANATUS. *Zizyph. testâ regulariter conoideâ, anfractibus declivi-convexis, densè grano-liratis, rufescente-albâ vel carneâ, infra suturas subobscure rufo strigato-maculatâ, granis alternatim, vel in interstitiis, rufis.*

THE GRAINED ZIZYPHINUS. Shell regularly conoid, whorls slopingly convex, densely grain-ridged, reddish white or flesh-tinged, rather obscurely streak-spotted beneath the sutures, grains red alternately or in the interstices.

Trochus granatus, Chemnitz, Conch. Cab. vol. v. p. 100. pl. 170. f. 1654, 1655.

Hab. Tasmania.

Although this shell is much smaller than that represented by Chemnitz, there is every reason to believe that it is an average example of the species. It is of a more regularly conical form than the preceding species, differently coloured. Martyn's *Trochus tigris*, which Deshayes refers to this species, is quite another shell, for which see Sp. 4.

Species 3. (Mus. Cuming.)

ZIZYPHINUS ARTICULATUS. *Zizyph. testâ depresso-conoideâ, versus apicem attenuatâ, anfractibus depresso-convexis, ad peripheriam subangulatis, spiraliter grano-liratis,*

liris alternatim majoribus, linearibus, continuis, carneâ, liris albido et rufo nitidè articulatis, basi lævigatâ, circulariter incisâ, rufo remotè articulatâ.

THE ARTICULATED ZIZYPHINUS. Shell depressly conoid, attenuated towards the apex, whorls depressly convex, slightly angled at the periphery, spirally grain-ridged, ridges alternately large, linear, continuous, flesh-colour, ridges neatly articulated with red; base smooth, circularly incised, distantly articulated with red.

Hab. — ?

A delicate depressly-conoid species in which the ridges are alternately large and smaller, and uniformly narrow, linear, and continuous. The colouring is disposed in neat articulations, which are present in a very characteristic manner at the base of the shell.

Species 4. (Mus. Cuming.)

ZIZYPHINUS TIGRIS. *Zizyph. testâ inflato-conicâ, versus apicem attenuato-elevatâ, anfractibus declivi-convexis, densè grano-liratis, liris læviusculis, superficiariis, albidâ, rufo-fusco undique confertim obliquè promiscuè strigatâ.*

THE TIGER ZIZYPHINUS. Shell inflatedly conical, attenuately raised towards the apex, whorls slopingly convex, densely grain-ridged, ridges rather smooth, superficial, whitish, everywhere closely obliquely promiscuously streaked with red-brown.

Trochus tigris, Martyn, Univ. Conch. pl. 75.

Zizyphinus tigris, Adams.

Hab. New Zealand.

This fine species, the largest of the genus, is at once distinguished by its handsome turban-like form, slopingly convex and rather ventricose round the periphery, peculiarly attenuately raised towards the apex.

Species 5. (Fig. a, b, Mus. Cuming.)

ZIZYPHINUS SPECTABILIS. *Zizyph. testâ regulariter conoideâ, solidâ, subponderosâ, anfractibus declivi-convexis, grano-liratis, liris subdistantibus, granis grandibus, lirarum interstitiis lævibus, excavatis, carneo aut flavescente, liris rosaceo-rufo punctatis.*

THE REMARKABLE ZIZYPHINUS. Shell regularly conoid, solid, rather ponderous, whorls slopingly convex, grain-ridged, ridges rather distant, grains large, interstices between the ridges smooth, excavated, flesh-colour or yellowish, ridges dotted with pinkish-red.

ADAMS, Pro. Zool. Soc. 1854. p. 37.

Hab. New Zealand.

This fine species is conspicuously distinguished from any other of the genus by its rather ponderous growth, pinkish-red colour, and bold sculpture. The ridges are almost squamately grained, and the interstices between them are smooth and excavated.

Species 6. (Mus. Cuming.)

ZIZYPHINUS CUNNINGHAMII. *Zizyph. testâ latè depresso-conoideâ, apice attenuatâ, anfractibus plano-declivibus, parum convexis, ultimo ad basin subacutè angulato, grano-liratis, liris subtilibus, inconspicuis, alternatim minoribus, livido-carneâ, liris rufescente punctatis.*

CUNNINGHAM'S ZIZYPHINUS. Shell broadly depressly conoid, attenuated at the apex, whorls flatly sloping, but little convex, the last rather sharply angled at the base, grain-ridged, ridges fine, inconspicuous, alternately smaller; livid flesh-colour, ridges dotted with pale-red.

GRAY, Griffith's Cuv. Anim. Kingdom.

Hab. New Zealand.

A shell of rather delicate substance, depressed, and unusually wide-spread at the base.



7.b.



7.a.



8.



9.a.



10.



11.



9.b.



12.



13.



14.

ZIZYPHINUS.

PLATE II.

Species 7. (Fig. a, b, Mus. Cuming.)

ZIZYPHINUS ORNATUS. *Zizyph. testâ obliquè conoideâ, basi dilatâtâ, anfractibus convexis, densè grano-striatis, ultimo decliviorè, ad peripheriam obtusè angulato, granis fortioribus; flavescente, carneo-rufo obliquè arcuatim nebulatâ et flammâtâ, basi subaurantiâ, interdum rufo punctato-articulatâ.*

THE ORNATE ZIZYPHINUS. Shell obliquely conoid, dilated at the base, whorls convex, densely grain-striated, last whorl more sloping, obtusely angled at the periphery, grains stronger; yellowish, obliquely arcuately clouded and flamed with flesh-red, base tinged with orange, sometimes dot-articulated with red.

Trochus ornatus, Lamarck, Anim. sans vert. vol. ix. p. 146.

Zizyphinus ornatus and *nebulosus*, A. Adams.

Hab. Torres Straits, North Australia; Ince.

This species resembles the following in general aspect, but it is well characterized by Lamarck in being grain-striated and dilated at the base. In *L. unicus* the last whorl is conspicuously rounded.

Species 8. (Mus. Cuming.)

ZIZYPHINUS UNICUS. *Zizyph. testâ obliquè conoideâ, basi ventricoso-rotundatâ, anfractibus rotundatis, densè lirato-striatis, parum granatis, basi lævigatâ, circulariter incisâ; albidâ vel flavescente, sanguineo-rufo subremotè flammâtâ, ad peripheriam conspicuè articulatâ.*

THE UNIQUE ZIZYPHINUS. Shell obliquely conoid, ventricosely rounded at the base, whorls rounded, densely ridge-striated, but little grained, base smooth, circularly engraved; whitish or yellowish, rather distantly flamed with blood-red, conspicuously articulated at the periphery.

DUNKER, Moll. Japonica.

Hab. Japan; A. Adams.

Very closely allied, and very similar in painting, to the Australian *Z. ornatus*. The surface is much less grained, the last whorl of the shell is ventricosely rounded, and the periphery is encircled by a well-defined articulated band of rather distant red spots.

Species 9. (Fig. a, b, Mus. Cuming.)

ZIZYPHINUS SPECIOSUS. *Zizyph. testâ erecto-conicâ, subpyramidali, ad basin depresso-rotundatâ, anfractibus subconcavo-declivibus, undique grano-liratis, liris tenuibus, lirâ parvâ læviusculâ interveniente; flavescente-albidâ, purpureo-rufo obscurè tessellatâ et punctato-gemmatâ, basi purpureo-punctatâ, callo centrali ustulato-aurantio tincto.*

THE BEAUTIFUL ZIZYPHINUS. Shell erectly conical, somewhat pyramidal, depressly rounded at the base, whorls rather concavely sloping, grain-ridged throughout, ridges fine, with a rather smaller smooth ridge coming between; yellowish white, obscurely tessellated and dot-gemmed with purple, base purple-dotted, central callosity tinged with burnt orange.

ADAMS, Pro. Zool. Soc. 1854, p. 38.

Hab. Moreton Bay, Australia; Strange.

The colouring of this fine species is very promiscuously distributed. Faint tessellated blotches, accompanied by a general sprinkling of dots in livid purple, are seen throughout, sparse and irregular.

Species 10. (Mus. Cuming.)

ZIZYPHINUS NOBILIS. *Zizyph. testâ acutè conicâ, ad basin angulatâ, anfractibus plano-declivibus, validè grano-liratis, lirâ basali majore, subprominente; flavescente, ferrugineo-rufo tessellatâ, liris alternatim purpureo-roseis.*

THE NOBLE ZIZYPHINUS. Shell sharply conical, angled at the base, whorls flatly sloping, strongly grain-ridged, basal ridge larger, rather prominent; yellowish, tessellated with rust-brown, ridges alternately purple-rose.

Trochus nobilis, Philippi, Kuster, Conch. Cab. p. 86. pl. 15. f. 6.

Hab. Swan River.

An exquisitely gemmed species, in which the ridges are alternately coloured purple-rose, both on the upper surface of the shell and at the base.

Species 11. (Mus. Cuming.)

ZIZYPHINUS SPLENDIDUS. *Zizyph. testā subacutè conicā, tumidiusculā, anfractibus convexo-declivibus, undique regulariter grano-liratis; albidā, aurantio-flavo et purpureo-roseo undiquè variegatā et maculatā.*

THE SPLENDID ZIZYPHINUS. Shell rather sharply conical, somewhat swollen, whorls convexly sloping, regularly grain-ridged throughout; whitish, variegated and spotted throughout with orange-yellow and purple-rose.

PHILIPPI, MS. in Mus. Cuming.

Hab. Australia.

In colour this species partakes very much of the character of the preceding, the purple-rose being more conspicuous, and broken up into blotches. The shell is of rather a lighter, more tumid growth, with the basal ridge no more prominent than the rest.

Species 12. (Mus. Cuming.)

ZIZYPHINUS JUJUBINUS. *Zizyph. testā pyramidal-conicā, solidiusculā, anfractibus concavo-declivibus, deinde tumido-rotundatis, undique granatis, granis parvis, subdistantibus; figlinā, anfractuum parte inferiori saturatā, albo-flammatā, basi minutè albo-punctatā.*

THE JUJUBE ZIZYPHINUS. Shell pyramidally conical, rather solid, whorls concavely sloping, then tumidly rounded, everywhere grained, grains small, rather distant; brick-red, lower part of the whorls darker, flamed with white, base minutely white-dotted.

Trochus jujubinus, Gmelin, Syst. Nat. p. 3570.

Trochus Zezyphinus, Chemnitz.

Zizyphinus jujubinus, Adams.

Hab. Swan River.

Of rather solid growth, minutely granuled, the lower part of each whorl tumidly bulging, and flamed with white.

Species 13. (Mus. Cuming.)

ZIZYPHINUS ANNULATUS. *Zizyph. testā subacutè conicā, tenuiculā, anfractibus convexo-planatis, eximiè grano-liratis, interstitiis subexcavatis, aureo-flavā, ad marginem basalem anfractuum vividè cæruleo-purpureā, liris purpureo-sanguineo minutè punctatis.*

THE RINGED ZIZYPHINUS. Shell rather sharply conical, somewhat thin, whorls convexly flattened, delicately grain-ridged, interstices rather excavated; golden yellow, brightly stained with blue-purple round the basal edge of each whorl, ridges minutely dotted with purple-blood.

Trochus annulatus, Martyn, Univ. Conch. vol. i. f. 33.

Trochus virgineus, Chemnitz.

Zizyphinus annulatus, Adams.

Hab. Monterey, California.

This well-known species is remarkable for the clear definition and constancy of its painting—a bright golden yellow, encircled with minutely red-dotted grained ridges, bordered with a clear blue-purple band winding round the basal margin of each whorl, from the apex to the aperture.

Species 14. (Mus. Cuming.)

ZIZYPHINUS CASTRA. *Zizyph. testā latè conoideā, depressā, acutangulā, tenuiculā, anfractibus plano-declivibus, spiraliter lineari-incisis, infra suturas obliquè plicato-crenulatis, ad marginem basalem funiculatis; pallidè carneā, obscure tessellatā et articulatā.*

THE CAMP ZIZYPHINUS. Shell broadly conoid, depressed, sharp-angled, rather thin, whorls flatly sloping, spirally linearly engraved, obliquely plicately crenulated below the sutures, corded at the basal margin; pale flesh-colour, obscurely tessellated and articulated.

Hab. Swan River.

Chiefly remarkable for its light, broadly depressed form and almost total absence of sculpture.



15.



16a.



17.



18.



16b.



16c.



19.



20.



21a.



21b.

ZIZYPHINUS.

PLATE III.

Species 15. (Mus. Cuming.)

ZIZYPHINUS TRANQUEBARICUS. *Zizyph. testâ sublatè conoideâ, anfractibus plano-declivibus, spiraliter lineari-incisis, ad marginem basalem conspicuè annuloso-funiculatis, funi interdum duplici, flavescente, pallidè lividâ, maculis parvis carneo-rubidis undique lentiginosâ et radiatâ.*

THE TRANQUEBAR ZIZYPHINUS. Shell rather broadly conoid, whorls flatly sloping, spirally linearly engraved, conspicuously annulosely corded at the basal margin, cords sometimes double, yellowish, faintly livid, freckled and rayed throughout with flesh-red small spots.

Trochus Tranquebaricus, Chemnitz, Conch. Cab. vol. v. p. 68. pl. 166. ff. 1595, 1596.

Hab. Tranquebar.

A smooth, glossy, flesh-spotted shell, encircled round the basal edge of the whorls with a very conspicuous double cord.

Species 16. (Fig. a, b, c, Mus. Cuming.)

ZIZYPHINUS CONULOIDES. *Zizyph. testâ subobliquè conicâ, ad basin tumidiusculâ, anfractibus plano-declivibus, interdum convexiusculis, spiraliter lineari-incisis vel liratis, ad marginem basalem modicè funiculatis, flavescente vel lividâ, carneo-rufa plus minus maculatâ.*

THE CONE-LIKE ZIZYPHINUS. Shell rather obliquely conical, a little swollen at the base, whorls flatly sloping, sometimes rather convex, spirally linearly engraved or ridged, moderately corded at the basal edge of the whorl, yellowish or livid, more or less blotched with flesh-red.

Trochus zizyphinus and *conuloides*, Lamarck, Anim. sans. vert. vol. ix. p. 142.

Trochus discrepans, Brown.

Trochus Lyonsii, Leach.

Trochus albus, Wood.

Trochus ciliaris, Menke.

Trochus agrestis, Philippi.

Hab. European and Australian Seas.

It is a curious feature in the geographical distribution of this well-known species that it appears both in European and Australian waters. The specimen represented

at Fig. 10a is *T. ciliaris* from the north-west coast of Australia, described by Menke, Moll. Nov. Holland. p. 17.

Species 17. (Mus. Cuming.)

ZIZYPHINUS EUGLYPTUS. *Zizyph. testâ conicâ, solidiusculâ, anfractibus supernè concavis, deinde tumido-rotundatis, undique densè lineari-granatis; flavescente vel rosaceo-carneâ, plus minus obscure albo-flammâtâ, apice atro-purpureo.*

THE WELL-ENGRAVED ZIZYPHINUS. Shell conical, rather solid, whorls concave round the upper part, then tumidly rounded, closely linearly grained throughout, yellowish or rose-tinted flesh; more or less obscurely white-flamed, apex dark-purple.

ADAMS, Pro. Zool. Soc. 1854, p. 38.

Hab. Tasmania.

A solid, tumidly bulging shell, minutely linearly grained throughout, of a roseate-flesh hue, obscurely flamed with white, and possessing a peculiar dark-purple apex.

Species 18. (Mus. Cuming.)

ZIZYPHINUS CANALICULATUS. *Zizyph. testâ acutè latè conicâ, ad basin concavo-planatâ, anfractibus declivibus, undique annuloso-liratis, liris lævibus, interstitiis conspicuè excavatis, præcipuè ad suturas; olivaceo-luteâ, in interstitiis saturatiore.*

THE CHANNELLED ZIZYPHINUS. Shell sharply broadly conical, concavely flattened at the base, whorls sloping, annulosely ridged throughout, ridges smooth, interstices conspicuously excavated; especially at the sutures, olive-yellow, darker in the interstices.

Trochus canaliculatus, Martyn, Univ. Conch. vol. i. pl. 32.

Trochus doliarius, Chemnitz.

Trochus doliarius, Chemnitz.

Zizyphinus canaliculatus, Gray.

Zizyphinus doliarius, Adams.

Hab. Australia, New Zealand.

Both the sharply-defined ringed sculpture and the buff colouring of this species are constant.

Species 19. (Mus. Cuming.)

ZIZYPHINUS ARMILLATUS. *Zizyph. testâ tumido-conicâ, tenuiculâ, versus apicem acutâ, anfractibus plano-convexis, undique grano-liratis, granis creberrimis, crenatis; flavescente, aureo-rufescente pallidè lentiginosâ.*

THE JEWELLED ZIZYPHINUS. Shell tumidly conical, rather thin, sharp towards the apex, whorls flatly convex, strongly grain-ridged throughout, grains very close, crenated; yellowish, faintly freckled with golden-red.

Trochus armillatus, Wood, Ind. Test. Suppl. pl. 9. f. 5.

Hab. Tasmania.

An exquisitely jewelled shell, freckled with light golden-red, allied to the smaller Australian *Z. splendidus*.

Species 20. (Mus. Cuming.)

ZIZYPHINUS BICINGULATUS. *Zizyph. testâ latè depressè conoideâ, anfractibus concavo-declivibus, deinde tumido-rotundatis, spiraliter liratis, liris duabus basalibus valdè prominentibus, omnibus densè plicato-crenatis; flavescente, aureo-rufo et albo profusè lentiginosâ.*

THE TWO-GIRT ZIZYPHINUS. Shell broadly depressly conoid, whorls concavely sloping round the upper part, then tumidly rounded, spirally ridged, two of the basal ridges very prominent, all densely plicately crenated; yellowish, profusely freckled with golden-red and white.

Trochus bicingulatus, Lamarck, Anim. sans vert. vol. ix. p. 147.

Trochus vinctus, Philippi.

Hab. Raine's Island, Torres Straits; Ince.

Beautifully sculptured and freckled, the shell being conically depressed with two of the ridges towards the basal margin developed into conspicuous cords.

Species 21. (Fig. a, b, Mus. Cuming.)

ZIZYPHINUS ZONAMESTUS. *Zizyph. testâ umbilicatâ, acutè conicâ, nunc depressâ, nunc pyramidalî, ad basin acutangulâ, anfractibus concavo-declivibus, minutè subobsoletè grano-liratis, interstitiis obliquè subtilissimè crenulatis; liris olivaceo-luteis, interstitiis ustulato-brunneis.*

THE NEATLY-ZONED ZIZYPHINUS. Shell umbilicated, conical, sometimes depressed, sometimes pyramidal, sharply angled at the base, whorls concavely sloping, minutely rather obsoletely grain-ridged; interstices obliquely very finely crenulated, ridges olive-yellow, interstices burnt-brown.

ADAMS, Pro. Zool. Soc. 1851, p. 166.

Hab. Honduras; Dyson.

In this species the ridges of fine granules are of a peculiar olive-yellow colour, while the interstices, minutely obliquely crenulated, are a rich burnt sienna.



22a.



23.



24.



22b.



25a.



25b.



26a.



27.



28.



26b.

ZIZYPHINUS.

PLATE IV.

Species 22. (Fig. *a, b*, Mus. Cuming.)

ZIZYPHINUS CONULUS. *Zizyph. testā conicā, ad basin tumidiusculā, anfractibus convexo-declivibus, lævigatis, nitentibus, ad apicem interdum granulatis, ad marginem basalem funiculatis; aureo-flavescente aut violaceā, rufo et albo nebulatā et articulatā.*

THE LITTLE-CONE ZIZYPHINUS. Shell conical, rather tumid at the base, whorls convexly sloping, smooth, shining, sometimes granulated at the apex, corded at the basal margin; golden-yellow or violet, clouded and articulated with red and white.

Trochus conulus, Linnæus, Syst. Nat. p. 1230.

Zizyphinus conulus, Adams.

Trochus violaceus, Risso.

Trochus Laugierii, Payraudeau.

Hab. British and Mediterranean Seas.

The specimen given at Fig. 22 *a* is Risso's *Trochus violaceus*.

Species 23. (Mus. Cuming.)

ZIZYPHINUS GEMMOSUS. *Zizyph. testā subtumido-conicā, solidā, anfractibus declivi-convexis, densè validè granulatis, hic illic lineari-incisis, lineis obliquè minutè crenulatis, margine basali obtusè rotundato; aureo-stramineā, lineis incisis chocolato-purpureis.*

THE GEMMED ZIZYPHINUS. Shell rather tumidly conical, solid, whorls slopingly convex, densely strongly grained, here and there linearly engraved, lines obliquely minutely crenulated, basal margin obtusely rounded; golden straw-colour, engraved lines chocolate-purple.

Trochus gemmosus, Reeve, Pro. Zool. Soc. 1842, p. 184.

Conch. Syst. vol. ii. p. 165. pl. 218. f. 9.

Hab. Puerto Galero, island of Mindanao, Philippines (in sandy mud, at a depth of about six fathoms); Cuming.

Strongly grained upon a bright golden straw-colour, enlaced with engraved lines of a deep chocolate-purple.

Species 24. (Mus. Cuming.)

ZIZYPHINUS LURIDUS. *Zizyph. testā conicā, anfractibus plano-declivibus, ad basin tumidiusculis, lævigatis vel malleatis, interdum spiraliter lineari-incisis; ustulato-fuscā, obscurissimè lurido-flammatā.*

THE LURID ZIZYPHINUS. Shell conical, whorls flatly sloping, rather tumid at the base, smooth or malleated, sometimes spirally linearly engraved; burnt-brown, very obscurely luridly flamed.

NUTTALL, MS. in Mus. Cuming.

Hab. California.

A smooth shell, spirally engraved towards the apex, of a peculiar burnt-brown colour, faintly obliquely flamed.

Species 25. (Fig. *a, b*, Mus. Cuming.)

ZIZYPHINUS EXIMIUS. *Zizyph. testā subdepresso-conicā, solidā, anfractibus supernè concavo-declivibus, deinde obtusè tumidis, spiraliter liratā, liris lævibus, ad marginem basalem angulari-prominentibus; albidā, purpureo vel cæruleo nebulatā et articulatā.*

THE PRETTY ZIZYPHINUS. Shell somewhat depressly conical, solid, whorls concavely sloping round the upper part, then obtusely swollen, spirally ridged, ridges smooth, angularly prominent at the basal margin; whitish, clouded and articulated with purple or blue.

Trochus eximius, Reeve, Pro. Zool. Soc. 1842, p. 185.

Conch. Syst. vol. ii. p. 165. pl. 218. f. 12.

Hab. Panama (in sandy mud at ten fathoms); Cuming.

The painting of this species is mostly disposed in dots and articulated fillets.

Species 26. (Fig. *a, b*, Mus. Cuming.)

ZIZYPHINUS CHLOROSTOMA. *Zizyph. testā subpyramidaliconicā, anfractibus concavo-declivibus, subtilissimè liratīs, interstitiis minutè obliquè reticulatis, anfractuum margine basali compressè angulato-productis; purpureo aut virente, saturatè nebulatā et albo-maculatā, apice sanguineo.*

THE GREEN-MOUTH ZIZYPHINUS. Shell somewhat pyramidally conical, whorls concavely sloping, very finely ridged, interstices minutely obliquely reticulated, basal margin of the whorls compressly angularly produced; purple or green, darkly clouded and white-spotted, apex blood-red.

Trochus chlorostoma, Menke, Moll. Nov. Holland, p. 17.

Zizyphinus chlorostoma, Adams.

Hab. West coast of New Holland; Menke. South Australia; Angas.

I have received specimens of this species from Mr. Angas, of Adelaide, South Australia, collected by him at Yorke's Peninsula.

Species 27. (Mus. Cuming.)

ZIZYPHINUS FILOSUS. *Zizyph. testā subobtusè conicā, solidā, anfractibus rotundatis, undique validè liratis, iris lævibus, interstitiis excavatis, præcipuè ad suturas; violaceo-fuscā, immaculatā, liris flavescentibus.*

THE CORDED ZIZYPHINUS. Shell rather obtusely conical, solid, whorls rounded, strongly ridged throughout, ridges smooth, interstices excavated, especially at the sutures; violet-brown, unspotted, ridges yellowish.

Trochus filiosus, Wood, Ind. Test. Supp. pl. 5. f. 23.

Trochus ligatus, Gould.

Trochus castaneus, Nuttall.

Hab. Puget Sound; Gould.

A solid shell, regularly encircled throughout with smooth

ring-like ridges, excavated in the interstices. Wood gives no descriptive characters with this species, but he figures it with unmistakeable accuracy.

Species 28. (Mus. Cuming.)

ZIZYPHINUS DECORATUS. *Zizyph. testā subpyramidaliconicā, ad basin tumidiusculā, anfractibus concavo-declivibus, undique rugoso-granatis, granis irregularibus, interstitiis sub lente minutè obliquè striatis; albidā, viridi aut purpureo-griseo profusè variegatā.*

THE EMBELLISHED ZIZYPHINUS. Shell somewhat pyramidally conical, rather swollen at the base, whorls concavely sloping, rugosely grained throughout, grains irregular, interstices beneath the lens obliquely minutely striated; whitish, profusely variegated with green or purple-grey.

Trochus decoratus, Philippi.

Hab. Brisbane waters, East Australia; Strange.

Of a more rugose-grained sculpture than usual, minutely obliquely striated in the interstices.



28.



29.



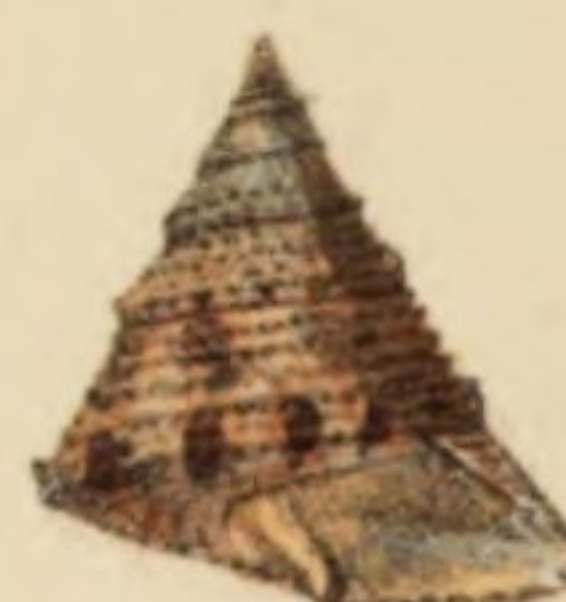
30.



31.



32.a.



32.b.



33.



34.



35.



36.

ZIZYPHINUS.

PLATE V.

Species 28. (Mus. Cuming.)

ZIZYPHINUS INCERTUS. *Zizyph. testâ abbreviato-conicâ, sinistrali, flavescence-albâ, anfractibus declivi-convexis, spiraliter densè lineari-liratis, anfractu ultimo basi obtusè angulato.*

THE DOUBTFUL ZIZYPHINUS. Shell shortly conical, sinistral, yellowish white, whorls slopingly convex, spirally closely linearly ridged, last whorl obtusely angled at the base.

Hab. Tasmania.

This sinistrally coiled shell appears to me to be distinct from any other described species. Its normal growth is probably dextral.

Species 29. (Mus. Cuming.)

ZIZYPHINUS SCOBINATUS. *Zizyph. testâ erecto-conicâ, ad basin tumidiusculâ, flavescence-albâ, rufo obscurè flammâtâ et punctatâ, anfractibus concavo-declivibus, undique densè papillari-granatis, anfractuum margine inferiori producto.*

THE FILED ZIZYPHINUS. Shell erectly conical, rather tumid at the base, yellowish white, obscurely flamed and dotted with red, whorls concavely sloping, densely papillary-grained throughout, lower margin of the whorls bulging.

ADAMS, MS. in Mus. Cuming.

Hab. Bombay.

The grains in this elegantly-formed shell are closely serially developed, and they are so large as to have a papillary appearance.

Species 30. (Mus. Cuming.)

ZIZYPHINUS MILLEGRANUS. *Zizyph. testâ subacutè conicâ, ad basin tumidiusculâ, flavescence-albâ, purpureo-roseo sparsim punctatâ et articulatâ, anfractibus plano-declivibus, undique obliquè reticulatim striaturatis, anfractuum margine inferiori crenato-funiculato.*

THE THOUSAND-GRAINED ZIZYPHINUS. Shell rather sharply conical, slightly tumid at the base, yellowish white, sparsely dotted and articulated with purple-rose, whorls flatly sloping, obliquely reticulately fretted throughout, lower margin of the whorls crenately corded.

Trochus millegranus, Philippi, Enum. Moll. Sicil. vol. i. p. 183. pl. 10. f. 25.

Trochus Clelandi, Wood.

Trochus Martini, Smith.

Trochus miliaris, Scacchi.

Hab. European Seas, from Norway to the Mediterranean.

The granular sculpture is in this species contorted, as it were, by oblique ridges into a netted fretwork. It is usually pale in colour, more or less delicately dotted and articulated with purple-rose.

Species 31. (Mus. Cuming.)

ZIZYPHINUS ANTONII. *Zizyph. testâ sublatè conicâ, solidâ, argenteo-albâ, atro-purpureo sparsim strigatâ et punctatâ, anfractibus concavo-declivibus, spiraliter lineari-granatis, granorum seriebus alternatim majoribus.*

ANTON'S ZIZYPHINUS. Shell rather broadly conical, solid, silvery white, sparsely streaked and dotted with dark purple, whorls concavely sloping, spirally linearly grained, rows of grains alternately larger.

Trochus Antonii, Koch, Phil. Abbild. pl. i. f. 4.

Zizyphinus Antonii, Adams.

Hab. Australia.

Of a peculiar silvery-grey colour, sparingly dotted and streaked with dark purple.

Species 32. (Fig. a, b, Mus. Cuming.)

ZIZYPHINUS SIMILARIS. *Zizyph. testâ subacuminato-conicâ, flavescence, purpureo-roseo nebulatâ et articulatâ, anfractibus plano-declivibus, densè spiraliter grano-liratis, interstitiis eximie reticulatis, anfractuum margine inferiori angulato-bifuniculato.*

THE SIMILAR ZIZYPHINUS. Shell rather acuminately conical, yellowish, clouded and articulated with purple rows, whorls flatly sloping, densely spirally grain-ridged, interstices faintly reticulated, lower margin of the whorls angularly double-corded.

Hab. Lizard Island, Torres Straits.

We have already noticed that the European *Z. conuloides* appears in North-West Australia; the present species

is a very near representative, if not identical, of the European *Z. millegranus*.

Species 33. (Mus. Cuming.)

ZIZYPHINUS FLAVUS. *Zizyph. testâ latè depressè conicâ, aurantio-flavâ, rufescente pallidissimè punctatâ, anfractibus plano-declivibus, rudè spiraliter liratis, liris lævibus, circa apicem granulatis.*

THE YELLOW ZIZYPHINUS. Shell broadly depressly conical, orange yellow, very faintly dotted with red, whorls flatly sloping, rudely spirally ridged, ridges smooth, granulated round the apex.

Trochus flavus, Anton, Zeitschr. für Malak. 1848. p. 105.
Hab. Australia.

It is quite possible that this may be a somewhat obscure variety of a more characteristic species not yet discovered in a typical state.

Fig. 34. (Mus. Cuming.)

The shell here figured, set apart in Mr. Cuming's collection as a distinct species, is a rounded form of *Z. scobinatus* represented at Fig. 29. Both are from Bombay.

Species 35. (Mus. Cuming.)

ZIZYPHINUS INDISTINCTUS. *Zizyph. testâ angustè conicâ, pyramidalî, olivaceo-flavâ, purpureo-rufo tessellatim punctatâ, anfractibus subconvexo-declivibus, spiraliter lineari-liratis, liris lævibus, confertiusculis, interstitiis subtilissimè obliquè clathratis.*

THE INDISTINCT ZIZYPHINUS. Shell narrowly conical, pyramidal, olive-yellow, tessellately dotted with purple-red, whorls somewhat convexly sloping, spirally linearly ridged, ridges smooth, rather close-set, interstices very finely obliquely latticed.

Trochus indistinctus, Wood, Ind. Test. Supp. pl. 6. f. 41.

Zizyphinus indistinctus, Adams.

Hab. New Holland.

An olive-yellow erectly conical shell, sprinkled in a tessellated manner with red dots.

Fig. 36. (Mus. Cuming.)

The shell here figured is a specimen of *Z. decoratus* in which the grains are more distinct and papillary, the interstices between them being still obliquely striated or wrinkled, whilst the ground-colour is a rose-lake, articulated with purple-black.



37.



38.



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41.a.



41.b.



42.



43.



44.



45.

ZIZYPHINUS.

PLATE VI.

Species 37. (Mus. Cuming.)

ZIZYPHINUS STRIATUS. *Zizyph. testâ subpyramidaliconicâ, cinereo-griseâ, cæruleo-nigro longitudinaliter lineari-strigatâ, anfractibus concavo-declivibus, spiraliter tenuiliratis, interstitiis et interdum liris obliquè striatis.*

THE STRIATED ZIZYPHINUS. Shell somewhat pyramidally conical, ash-grey, longitudinally linearly striped with blue-black, whorls concavely sloping, spirally finely ridged, interstices and sometimes the ridges obliquely striated.

Trochus striatus, Linnæus, Syst. Nat. p. 1230.

Trochus erythroleucus and *punctulatus*, Gmelin.

Trochus parvus, Da Costa.

Trochus conicus, Donovan.

Trochus depictus, Deshayes.

Trochus Sartorii, Aradas and Maggiore.

Hab. South British and Mediterranean Seas.

The painting of this little species, though variable, is mostly disposed in dark, longitudinally waved, linear streaks.

Species 38. (Mus. Cuming.)

ZIZYPHINUS ELEGANTULUS. *Zizyph. testâ acutè conicâ, versus basin depressè tumido-rotundatâ, lutescente, anfractibus concavo-declivibus, granoso-liratis, liris distantibus, granis etiam subdistantibus, interstitiis latè excavatis, præcipuè ad suturas, liris violaceo-fuscis.*

THE ELEGANT ZIZYPHINUS. Shell sharply conical, depressly tumidly rounded towards the base, yellowish, whorls concavely sloping, granosely ridged, ridges distant, grains also rather distant, interstices broadly excavated, especially at the sutures, ridges violet-brown.

ADAMS, Pro. Zool. Soc. 1851, p. 167.

Hab. Malacca (in coral sand from a depth of ten fathoms); Cuming.

The grains, which on the upper part of the whorls are rather distant from each other, gradually diminish in size, and approximate towards the base, where they amalgamate into smooth cords.

Species 39. (Mus. Cuming.)

ZIZYPHINUS MONILE. *Zizyph. testâ erecto-conicâ, ad basin*

tumidiusculâ, pellucido-albâ, maculis violaceis moniliformi-cinctâ, anfractibus concavo-declivibus, spiraliter liratis, liris lævibus, duabus basalibus prominentioribus.

THE NECKLACE ZIZYPHINUS. Shell erectly conical, rather swollen at the base, transparent white, encircled by a necklace of violet spots, whorls concavely sloping, spirally ridged, ridges smooth, the two basal ridges more prominent.

Hab. Port Curtis, East Australia.

The necklace of violet spots has an exceedingly pretty appearance on the delicate transparent ground of the shell.

Species 40. (Mus. Cuming.)

ZIZYPHINUS POLYCHROMA. *Zizyph. testâ angustè pyramidaliconicâ, olivaceâ vel brunneâ, strigis lineisque tenuibus albis longitudinaliter floccatâ, anfractibus concavo-planatis, spiraliter lineari-incisis, anfractuum margine basali bifuniculato.*

THE MANY-COLOURED ZIZYPHINUS. Shell narrowly pyramidally conical, olive or brown, longitudinally flaked with white streaks and fine lines, whorls concavely flattened, spirally linearly engraved, basal margin of the whorls double-corded.

ADAMS, Pro. Zool. Soc. 1851, p. 168.

Hab. Island of Masbate, Philippines (in sandy mud at a depth of about seven fathoms); Cuming.

There is no indication of any grained sculpture on this prettily-painted species.

Species 41. (Fig. a, b, Mus. Cuming.)

ZIZYPHINUS PYRAMIS. *Zizyph. testâ acutè pyramidaliconicâ, variè coloratâ et maculatâ, anfractibus concavo-declivibus, spiraliter minutè grano-liratis, interstitiis interdum obliquè striatis, anfractuum margine basali conspicuè tumido-producto.*

THE PYRAMID ZIZYPHINUS. Shell narrowly pyramidally conical, variously coloured and spotted, whorls concavely sloping, spirally minutely grain-ridged, interstices sometimes obliquely striated, basal margin of the whorls conspicuously tumidly bulging.

Trochus pyramis, Gmelin; Chemn. Conch. Cab. vol. v. pl. 170. f. 1652, 1653.

Hab. Australia.

In this narrow pyramidal shell, the lower margin of the whorls is more than usually tumidly produced. The painting is too variable to afford the means of definition.

Species 42. (Mus. Cuming.)

ZIZYPHINUS PULCHELLUS. *Zizyph. testā abbreviato-conicā, ad basin tumidā, carneo-albā, roseo profusè punctatā et interdum strigatā, anfractibus concavo-declivibus, spiraliter liratis, liris lævibus, insterstitiis spiraliter striatis, anfractuum margine basali depressè angulato-producto.*

THE PRETTY ZIZYPHINUS. Shell shortly conical, swollen at the base, flesh-white, profusely dotted, and sometimes streaked, with rose, whorls concavely sloping, spirally ridged, ridges smooth, interstices spirally striated, basal edge of the whorls depressly angularly produced.

Trochus pulchellus, Philippi, Zeitschr. für Malac. 1846, p. 101.

Hab. —?

The sculpture in the interstices between the ridges runs parallel with the ridges themselves.

Species 43. (Mus. Cuming.)

ZIZYPHINUS TICAONICUS. *Zizyph. testā subabbreviato-conicā, versus basin subventricosā, pallidè carneo-roseā, obscurè punctato-articulatā, anfractibus convexis, spiraliter tenuiliratis, liris lævibus, alternatim minoribus.*

THE TICAONIC ZIZYPHINUS. Shell rather shortly conical, rather ventricose towards the base, pale flesh-rose, faintly dot-articulated, whorls convex, spirally finely ridged, ridges smooth, alternately smaller.

ADAMS, Pro. Zool. Soc. 1851, p. 167.

Hab. Island of Ticao, Philippines (in sandy mud at a depth of about six fathoms); Cuming.

Remarkable only for the simplicity of its characters.

Species 44. (Mus. Cuming.)

ZIZYPHINUS SCITULUS. *Zizyph. testā umbilicatā, tumido-conicā, tenuiculā, aurantio-fulvā, punctis sanguineis minutè articulatā, hic illic albo-floccatā, anfractibus convexo-declivibus, spiraliter striato-liratis, lirā juxta suturas majore.*

THE NEAT ZIZYPHINUS. Shell umbilicated, tumidly conical, rather thin, orange fulvous, minutely articulated with crimson dots, and here and there flaked with white, whorls convexly sloping, spirally striately ridged, ridge next the suture larger.

ADAMS, Pro. Zool. Soc. 1854, p. 38.

Hab. New Zealand; Strange.

The painting of this species as above described is characteristic.

Species 45. (Mus. Cuming.)

ZIZYPHINUS LEANUS. *Zizyph. testā subacutè conicā, livido-ærucā, fusco obscurè flammata, anfractibus supernè concavo-declivibus, deinde tumido-productis, undique validè spiraliter granatis.*

LEA'S ZIZYPHINUS. Shell rather sharply conical, livid bronze, obscurely flamed with brown, whorls concavely sloping round the upper part, then tumidly bulging, strongly spirally grained throughout.

Trochus Leanus, C. A. Adams.

Hab. —?

A strongly-grained shell of a peculiar livid bronze hue, faintly brown-streaked.



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55.

ZIZYPHINUS.

PLATE VII.

Species 46. (Mus. Cuming.)

ZIZYPHINUS ALABASTRUM. *Zizyph. testā sublatè conicā, tenui, sordidè albā, anfractibus convexis, spiraliter carinatis, carinis lævibus, circa apicem granulatis, distantibus, interstitiis latè excavatis, præcipuè ad suturas, anfractu ultimo tumido-producto.*

THE ALABASTER ZIZYPHINUS. Shell rather broadly conical, thin, dull white, whorls convex, spirally keeled, keels smooth, granulated round the apex, distant, interstices broadly excavated, especially at the sutures, last whorl tumidly bulging.

Margarita alabastrum, Beck, Lovén, Index Moll. Scan. p. 20.

Trochus formosus, Forbes.

Trochus alabastrum, Forbes and Hanley.

Zizyphus alabastrum, Adams.

Hab. North European Seas.

Some doubt exists as to whether this interesting prominently-keeled *Zizyphus*, which is a boreal European species, is not the same as a North American species described by Mighels and Adams in the 'Journal of the Natural History Society of Boston' for 1841, with the name *Trochus occidentalis*.

Species 47. (Mus. Cuming.)

ZIZYPHINUS FRAGUM. *Zizyph. testā conicā, sordidè albā, fuscescente pallidè tessellatā, anfractibus convexo-declivibus, spiraliter densè granatis, granis amplis, papillaribus.*

THE STRAWBERRY ZIZYPHINUS. Shell conical, dull white, faintly tessellated with brown, whorls convexly sloping, spirally closely grained, grains large, papillary.

Trochus fragum, Philippi, Zeitschr. für Malac. 1848. p. 106.

Hab. Australia.

A large-grained shell, faintly tessellated with violet-brown.

Species 48. (Mus. Cuming.)

ZIZYPHINUS COMPTUS. *Zizyph. testā erecto-conicā, sordidè albā, ad marginem basalem fusco sparsim punctatā, anfractibus declivi-convexis, ad suturas impressis, undique seriatim granulatis.*

THE NEAT ZIZYPHINUS. Shell erectly conical, dull white sparsely dotted with red-brown at the basal margin, whorls slopingly convex, impressed at the sutures, encircled throughout with rows of granules.

ADAMS, Pro. Zool. Soc. 1854, p. 38.

Hab. New Caledonia.

A rather solid, dull, semitransparent shell, with indications of brown dots about the basal margin.

Species 49. (Mus. Cuming.)

ZIZYPHINUS JAPONICUS. *Zizyph. testā elevato-conicā, purpureā et rufā, flammis albidis variegatā vel reticulatā, basi punctatā, anfractibus plano-declivibus, lævibus, prope suturas lineari-incisis.*

THE JAPAN ZIZYPHINUS. Shell elevately conical, purple and red, variegated or reticulated with white flames, base dotted, whorls flatly sloping, smooth, linearly engraved next the suture.

ADAMS, Pro. Zool. Soc. 1851. p. 167.

Hab. Japan.

Variously reticulated and articulated with white, of the same smooth richly-painted type as *Z. polychroma*.

Species 50. (Fig. 50, 51, Mus. Cuming.)

ZIZYPHINUS MAC-ANDREÆ. *Zizyph. testā conicā, solidiusculā, albidā, ustulato-purpureo tessellato-strigatā, anfractibus supernè concavo-impressis, deinde tumido-rotundatis, undique spiraliter grano-liratis.*

MAC-ANDREW'S ZIZYPHINUS. Shell conical, rather solid, white, tessellately streaked with burnt-purple, whorls concavely impressed round the upper part, then tumidly rounded, spirally grain-ridged throughout.

CARPENTER, Cat. Reigen Coll. p. 232.

Hab. Mazatlan, Panama.

Tessellately streaked in a characteristic manner with burnt-purple or blood-colour.

Species 52. (Mus. Cuming.)

ZIZYPHINUS FLAMMIGER. *Zizyph. testā acutè elevato-*

conicâ, fulvo-rufescente, albo flammâtâ, anfractibus convexo-declivibus, levibus.

THE FLAMED ZIZYPHINUS. Shell sharply elevately conical, fulvous red, flamed with white, whorls convexly sloping, smooth.

DUNKER, MS. in Mus. Cuming.

Hab. — ?

A perfectly smooth shell, flamed with white, upon a peculiar fulvous-red ground.

Species 53. (Mus. Cuming.)

ZIZYPHINUS PICTURATUS. *Zizyph. testâ angustè erecto-conicâ, vividè virente, albo flammâtâ, purpureo-rufo variè tinctâ et punctatâ, anfractibus plano-declivibus, lineari-incisis, ad marginem basalem funiculatis.*

THE EMBROIDERED ZIZYPHINUS. Shell narrowly erectly conical, bright green, flamed with white, variously stained and dotted with purple-red, whorls flatly sloping, linearly engraved, corded round the basal margin.

ADAMS, Pro. Zool. Soc. 1851. p. 168.

Hab. Island of Negros, Philippines (in sandy mud at the depth of seven fathoms); Cuming.

Exquisitely painted in the most variable manner, with green and purple-red, the former colour predominating.

Species 54. (Mus. Cuming.)

ZIZYPHINUS CRENULATUS. *Zizyph. testâ subacutè conicâ, albidâ, roseo tinctâ et articulâtâ, aut variè colorâtâ, anfractibus plano-declivibus, minutè grano-liratis, in-*

terstitiis subtilissimè crenulatis, anfractuum margine basali conspicuè tumido-funiculato.

THE CRENULATED ZIZYPHINUS. Shell rather sharply conical, whitish, stained and articulated with rose, or variously coloured, whorls flatly sloping, minutely grain-ridged, interstices very finely crenulated, basal margin of the whorls conspicuously tumidly corded.

Trochus crenulatis, Brocchi, Conch. Foss. Subapp. p. 354. pl. 6. f. 2.

Trochus punctatus, Renieri.

Trochus punctulatus, Dillwyn.

Trochus minimus, Chemnitz.

Trochus pyramidatus, Lamarck.

Trochus Matoni, Payraudeau.

Hab. Mediterranean.

This pretty species, allied to *Z. millegranus*, is encircled with a stout tumid cord, on which the colour is conspicuously articulated throughout.

Species 55. (Mus. Cuming.)

ZIZYPHINUS DUPLICATUS. *Zizyph. testâ elevato-conicâ, sordidè albâ, anfractibus ad suturas impressis, deinde tumido-rotundatis, undique densè granatis.*

THE DUPLICATE ZIZYPHINUS. Shell elevately conical, dull white, whorls impressed at the sutures, then tumidly rounded, closely grained throughout.

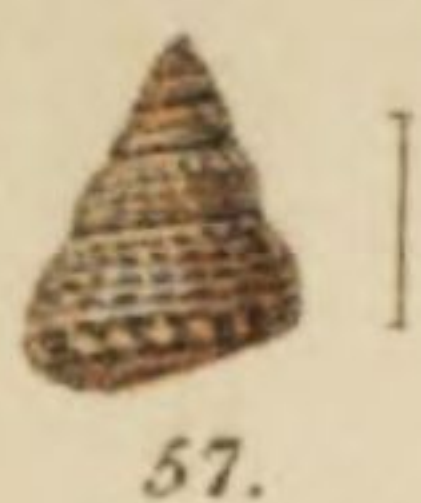
ADAMS, Pro. Zool. Soc. 1851, p. 168.

Hab. — ?

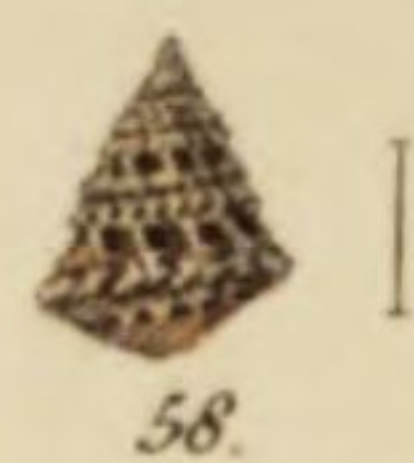
This is a very unsatisfactory species. Although the sculpture is well defined, the shell is dead and colourless, and nothing is known of its habitat.



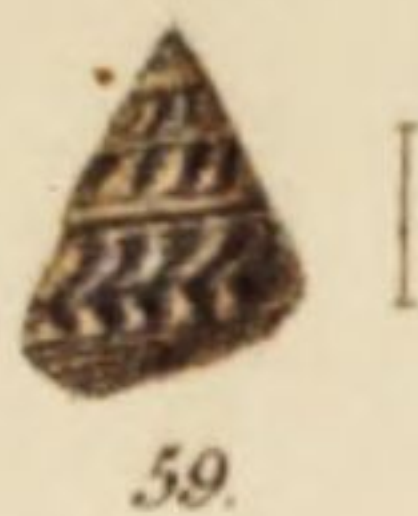
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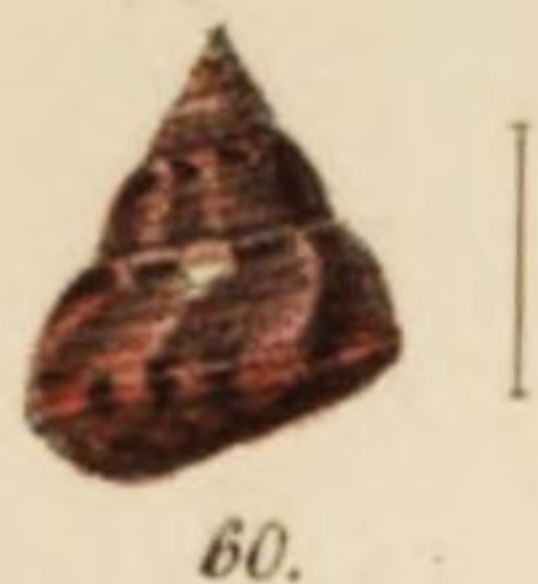
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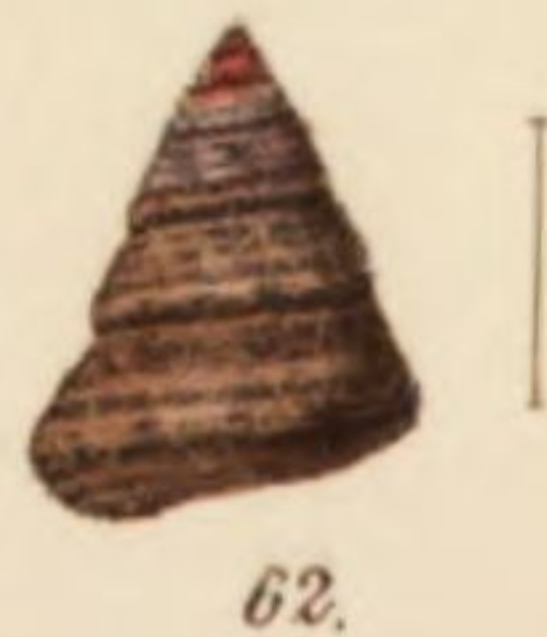
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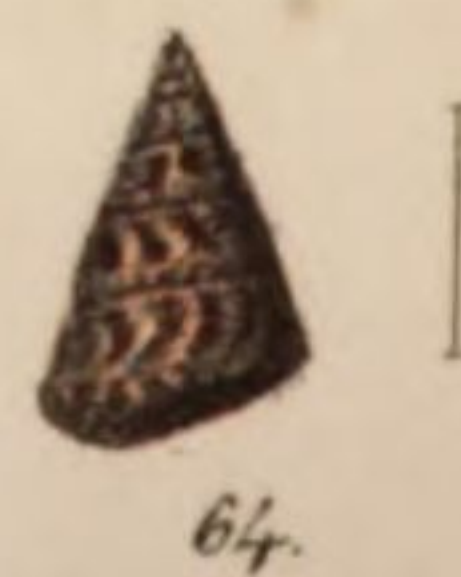
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ZIZYPHINUS.

PLATE VIII.

Species 56. (Mus. Cuming.)

ZIZYPHINUS RUBRO-PUNCTATUS. *Zizyph. testā abbreviato-conicā, lutescente, anfractibus convexis, ad suturas impressis, liris squamato-spinulosis cinctis, interstitiis profundis, minutis, rubris.*

THE RED-DOTTED ZIZYPHINUS. Shell shortly conical, yellowish, whorls convex, impressed at the sutures, encircled with squamately spined ridges, interstices deep, minute, red.

ADAMS, Pro. Zool. Soc. 1851, p. 167.

Hab. — ?

The sculpture of this little species is developed throughout in erect prickly scales, the minute interstices between which are red.

Species 57. (Mus. Cuming.)

ZIZYPHINUS MONTAGUI. *Zizyph. testā conicā, flavescente-albā, fuscescente punctatā, anfractibus convexis, spiraliter lineari-liratis, liris lævibus, interstitiis latè profundè excavatis, minutissimè longitudinaliter striatis.*

MONTAGU'S ZIZYPHINUS. Shell conical, yellowish-white, dotted with pale-brown, whorls convex, spirally linearly ridged, ridges smooth, interstices broadly deeply excavated, very minutely longitudinally striated.

Trochus Montagui, Gray, Wood, Ind. Test. Suppl. pl. 6. f. 43.

Trochus striatus, Forbes.

Zizyphinus striatus, Adams.

Hab. British Seas. Vigo Bay, Galicia; M'Andrew.

Encircled with narrow smooth ridges, the interstices between which are neatly excavated.

Species 58. (Mus. Cuming.)

ZIZYPHINUS UNICINCTUS. *Zizyph. testā subfusiformi-conicā, flavescente-albā, purpureo-rufo sparsim articulata, anfractibus spiraliter tenuistriatis, supernè declivibus, rudè plicatis, medio angulato-tumidis, ad angulum nodatis, anfractu ultimo versus basin attenuato, unifuniculato.*

THE ONE-GIRT ZIZYPHINUS. Shell somewhat fusiformly conical, yellowish-white, sparingly articulated with

purple-red, whorls spirally finely striated, sloping and rudely plicated round the upper part, angularly swollen in the middle, noduled at the angle, last whorl attenuated towards the base, one-corded.

ADAMS, Pro. Zool. Soc. 1851, p. 167.

Hab. Lord Hood's Island (on pearl oysters, at a depth of from eight to ten fathoms); Cuming.

A curiously formed species, of which the character is well given in the accompanying figure.

Species 59. (Mus. Cuming.)

ZIZYPHINUS VEXILLUM. *Zizyph. testā conicā, albidā, viridi latistrigatā, anfractibus rudè convexis, lævibus, spiraliter lineari-incisis.*

THE FLAG ZIZYPHINUS. Shell conical, white, broadly striped with green, whorls rudely convex, smooth, spirally linearly engraved.

Hab. Australia; Strange.

A shell of simple form, with no sculpture excepting faintly engraved spiral lines.

Species 60. (Mus. Cuming.)

ZIZYPHINUS CALlichROUS. *Zizyph. testā subabbreviato-conicā, versus basin latè angulato-ventricosā, purpureo-roseā, lineis nigris distantibus cinctā, fusco obliquè flammata et articulata, anfractibus plano-convexis, spiraliter lineari-incisis, circa apicem obscure granulatis.*

THE PRETTY-COLOURED ZIZYPHINUS. Shell rather shortly conical, broadly angularly ventricose towards the base, purple-rose, encircled with distant black lines, obliquely flamed and articulated with brown, whorls flatly convex, spirally linearly engraved, obscurely granulated round the apex.

Trochus callichrous, Philippi, Zeitschr. für Malak. 1849, p. 149.

Zizyphinus strigosus, Adams.

Hab. Morocco.

The evidence of this species being *Trochus strigosus* of Gmelin is insufficient; and the figure in Chemnitz, to

which Mr. Adams refers in illustration of it, represents a *Z. crenulatus*.

Species 61. (Mus. Cuming.)

ZIZYPHINUS OCELLATUS. *Zizyph. testâ sublatè conicâ, rufescente-fulvâ, maculis albis fusco-umbratis ocellatâ, anfractibus supernè concavo-impressis, deinde rotundatis, undique spiraliter grano-liratis.*

THE EYED ZIZYPHINUS. Shell rather broadly conical, reddish fulvous, ocellated with brown-shaded white spots, whorls concavely impressed round the upper part, then rounded, spirally grain-ridged throughout. *Hab.* — ?

Rather constrictedly impressed below the sutures, then rounded and ocellated with shaded opaque-white spots.

Species 62. (Mus. Cuming.)

ZIZYPHINUS EXIGUUS. *Zizyph. testâ subpyramidali-conicâ, cinereo-fuscescente, obliquè nebulatâ, apice intensè roseo, anfractibus concavo-declivibus, spiraliter obtusè liratis, interstitiis crenulato-striatis, anfractuum margine basali tumido-funiculato.*

THE LITTLE ZIZYPHINUS. Shell somewhat pyramidally conical, ash-brown, clouded obliquely, apex deep-rose, whorls concavely sloping, spirally obtusely ridged, interstices crenulately striated, basal margin of the whorls tumidly corded.

Trochus exiguus, Pulteney, Hutchins' Hist. Dorset, p. 44.

Trochus conulus, Da Costa.

Trochus minutus, Dillwyn.

Trochus erythroleucus, Lamarck.

Trochus interruptus, Wood.

Zizyphinus exiguus, Adams.

Hab. South Britain and Mediterranean shores.

Though variable in colour this species is mostly of a light tawny or ash-brown, the apex being always a deep-rose.

Species 63. (Mus. Cuming.)

ZIZYPHINUS ZEBUENSIS. *Zizyph. testâ obeso-conicâ, albidâ, pallidè cærulescente-viridi variegatâ, anfractibus rotundatis, undiquè confertim tenuiliratis, infra suturas minutè crenulatis, liris lævibus, subacutis.*

THE ZEBU ZIZYPHINUS. Shell stoutly conical, whitish, variegated with pale blue-green, whorls rounded, closely finely ridged throughout, minutely crenulated below the sutures, ridges smooth, rather sharp.

ADAMS, MS. in Mus. Cuming.

Hab. Island of Zebu, Philippines; Cuming.

The ridges of this little species are unusually fine and sharp, with no indications of granules.

Species 64. (Mus. Cuming.)

ZIZYPHINUS INTERRUPTUS. *Zizyph. testâ erecto-conicâ, griseo-albidâ, lineis tenuibus cæruleo-nigricantibus interruptis cinctâ, ad suturas minutè articulatâ, anfractibus plano-declivibus, spiraliter tenuiliratis, interstitiis minutè crenulato-striatis.*

THE INTERRUPTED ZIZYPHINUS. Shell erectly conical, greyish-white, encircled with fine blue-black interrupted lines, minutely articulated at the sutures, whorls flatly sloping, spirally finely ridged, interstices minutely crenulately striated.

Trochus interruptus, Wood, Ind. Test. Suppl. pl. vi. f. 42.

Zizyphinus interruptus, Adams.

Hab. — ?

A very distinct erectly-conical shell, painted in an elaborately tessellated manner.

Species 65. (Mus. Cuming.)

ZIZYPHINUS DECUSSATUS. *Zizyph. testâ subacutè conicâ, ad basin tumidiusculâ, albidâ, vividè viridi maculatâ et variegatâ, anfractibus plano-declivibus, spiraliter tenuè grano-liratis, ad marginem basalem decussatis et squamatis, suturis angustè impressis.*

THE DECUSSATED ZIZYPHINUS. Shell rather sharply conical, a little swollen at the base, white, spotted and variegated with bright-green, whorls flatly sloping, spirally finely grain-ridged, decussated and crenulately scaled at the basal margin, sutures narrowly impressed.

ADAMS, Pro. Zool. Soc. 1851, p. 167.

Hab. Island of Mindoro, Philippines (in coarse gravel, at the depth of twelve fathoms); Cuming.

A very elegant little species, in which the granules at the basal margin of each whorl and on the under surface of the shell are transformed into scales.

MONOGRAPH
OF THE GENUS
TEREBELLUM.

“And I have felt
A presence that disturbs me with the joy
Of elevated thoughts ; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean.”—*Wordsworth*.

MONOGRAPH

OF THE

REBEL



1.b.



1.a.



1.c.



1.d.



1.e.



1.g.



1.f.

TEREBELLUM.

PLATE I.

Genus TEREBELLUM, Lamarck.

Testa cylindraceo-subulata, angustè leviter convoluta, spirâ prominente, subobtusâ, suturâ lineari-incisâ, supernè encausticâ, aperturâ longitudinali, supernè tenuè canaliculatâ, ad basin abruptè decurtatâ et truncatâ, columellâ subrectâ, encausticâ, in mucronem desinente.

Shell cylindrically subulate, narrowly lightly convoluted, spire prominent, rather obtuse, suture linearly cut, enamelled along the upper margin, aperture longitudinal, thinly channelled at the upper part, abruptly cut short and truncated at the base, columella nearly straight, enamelled, ending in a point.

In 1846, when publishing the third Number of my 'Elements of Conchology,' I took occasion to notice that although the *Terebellum* shell had been known for a century and more, and is not unfrequently collected on the shores of the Eastern Seas, no specimen had yet been found with its molluscous inhabitant. Mr. Cuming, however, remembered seeing living specimens, seven years before, at the Philippine Islands, having remarked its activity of habit in leaping from his hand. In 1845 the animal of *Terebellum* was well observed by Mr. Arthur Adams during the voyage of the 'Samarang' in the China Sea and among the islands of the Sooloo Archipelago, and an excellent drawing and description of it was published in 1850 in the Zoology of that expedition. Agreeably with the conjectures of Sowerby and De Blainville, the soft parts of *Terebellum* were found to resemble those of *Strombus*, and, as in *Oliva*, which De Blainville placed after it in the series, the mantle is provided with a long filamentary cord winding into the sutures of the shell.

"The *Terebellum*," says Mr. Adams, "is extremely shy in its movements. Poising its shell in a vertical position,

and cautiously protruding its long telescope-eye from the truncature in front of the shell, it will remain stationary until assured of security. It will then use its pointed foot as a lever, and roll its shell over and over, progressing by a series of irregular leaps. When removed from the water, before dying, it will jump several inches from the ground."

Species 1. (Fig. *a* to *g*, Mus. Cuming.)

TEREBELLUM PUNCTATUM. *Ter. testâ cylindraceo-subulatâ, lævigatâ, nitente, spirâ conspicuâ, suturâ lineari-incisâ, encausticâ, fulvescente-albâ, spadiceo-fusco variè lentiginosâ vel undatâ, interdum castaneo-punctatâ vel acutè undatâ.*

THE DOTTED TEREBELLUM. Shell cylindrically subulate, smooth, shining, spire conspicuous, suture linearly cut, enamelled, fulvous-white, variously freckled or waved with fawn-brown, sometimes dotted or sharply waved with chestnut.

Bulla terebellum, Linnæus, Syst. Nat. p. 1185.

Conus terebellum, Linnæus.

Terebellum punctatum, pullum, and album, Klein.

Strombus terebellum, Rumphius.

Terebra alata, Argenville.

Terebellum punctatum, Chemnitz.

Terebellum subulatum, Lamarck.

Hab. China Sea, and Indian and Philippine Archipelagoes.

All the specimens of *Terebellum* hitherto collected appear to be referable to one species. It will be seen by the varieties assembled in the accompanying plate, that the colouring is fawn or chestnut-brown upon a fulvous ground, disposed in freckles, dots, or zigzag lines.

PALUDINA.

MONOGRAPH

OF THE GENUS

P A L U D I N A .

“How green you are, and fresh in this old world!”—*Shakespeare.*

MONOGRAPH

ON THE GENUS

PALUDINA.

PALUDINA.

	Plate.	Species.		Plate.	Species.
<i>abbreviata</i> , Reeve	V.	26	<i>integra</i> , Say	VIII.	45
<i>achatina</i> , Studer	I.	4	<i>intermedia</i> , Hanley	IX.	57
<i>æruginosa</i> , Reeve	VII.	41	<i>intertexta</i> , Say	IV.	15
<i>æthiops</i> , Reeve	X.	60	<i>Japonica</i> , Martens	III.	13
<i>amplior</i> , Mousson	IX.	55	<i>Javanica</i> , Busch	IX.	52
<i>ampullacea</i> , Charpentier	III.	12	<i>lecythoides</i> , Benson	IV.	21
<i>Ampullarioides</i> , Hanley	VI.	30	<i>lima</i> , Anthony	VIII.	48
<i>angularis</i> (<i>Nerita</i>), Müller	III.	14	<i>limosa</i> , Valenciennes	VIII.	45
<i>angulata</i> , Lea	I.	2	<i>lineata</i> , Valenciennes	I.	4
<i>australis</i> , Reeve	XI.	71	<i>lineolata</i> , Mousson	IX.	50
<i>Bengalensis</i> , Lamarck	II.	5	<i>Listeri</i> , Forbes and Hanley	I.	3
<i>Bermondiana</i> , D'Orbigny	V.	28	<i>magnifica</i> , Conrad	IX.	54
<i>bicarinata</i> , Potiez and Michaud ..	VIII.	44	<i>Maheyana</i> , Grateloup	XI.	72
<i>bimonilifera</i> , Lea	IX.	54	<i>malleata</i> , Reeve	V.	25
<i>Boissieri</i> , Charpentier	XI.	67	<i>melanostoma</i> , Benson	V.	27
<i>Burroughiana</i> , Lea	IV.	16	<i>nitens</i> , Reeve	X.	59
<i>carinata</i> , Swainson	IX.	53	<i>nucleus</i> , Mousson	V.	29
<i>Ceylanica</i> , Dohrn	VI.	32	<i>obtusa</i> , Troschel	VI.	33
<i>Chinensis</i> , Gray	IV.	18	<i>ovularis</i> , Valenciennes	VIII.	45
<i>ciliata</i> , Reeve	VI.	36	<i>oxytropis</i> , Benson	II.	9
<i>coarctata</i> , Lea	VIII.	46	<i>polita</i> , Frauenfeld	XI.	73
<i>contecta</i> (<i>Cyclostoma</i>), Millet	I.	3	<i>polyzonata</i> , Frauenfeld	VII.	38
<i>contorta</i> , Shuttleworth	VIII.	43	<i>ponderosa</i> , Say	VIII.	45
<i>Coosaensis</i> , Lea	V.	22	<i>præmorsa</i> , Benson	VI.	35
<i>cornea</i> , Valenciennes	VIII.	45	<i>prærosa</i> , Gerstfeldt	III.	10
<i>costata</i> , Quoy	II.	6	<i>puncturata</i> , Reeve	X.	66
<i>crassa</i> , Hutton	VI.	33	<i>pyramidata</i> , Busch	II.	9
<i>Cumingii</i> , Hanley	III.	11	<i>quadrata</i> , Benson	IV.	17
<i>Cyclostomatiformis</i> , Lea	VIII.	43	<i>regularis</i> , Lea	XI.	69
<i>decapitata</i> , Anthony	XI.	75	<i>Remossii</i> , Philippi	VI.	35
<i>decisa</i> , Say	VIII.	45	<i>rufa</i> , Haldemann	VIII.	45
<i>dissimilis</i> , Müller	IX.	56	<i>scalaris</i> , Jay	XI.	68
<i>doliaris</i> , Gould	I.	1	<i>sinistrorsa</i> , Lea	IV.	15
<i>Elliotti</i> , Lea	VIII.	43	<i>subcarinata</i> , Say	VIII.	44
<i>elongata</i> , Swainson	II.	5	<i>subpurpurea</i> , Say	VIII.	47
<i>erilis</i> , Anthony	VIII.	46	<i>subsolida</i> , Anthony	VIII.	45
<i>fallax</i> , Frauenfeld	IX.	51	<i>sulculosa</i> , Menke	VIII.	44
<i>fasciata</i> , Deshayes	I.	4	<i>Sumatrensis</i> , Dunker	X.	65
<i>filosa</i> , Hanley	VI.	31	<i>Texana</i> , Tryon	V.	24
<i>formosula</i> , Frauenfeld	X.	62	<i>Thersites</i> , Hanley	IX.	49
<i>fulva</i> , Reeve	X.	64	<i>umbilicata</i> , Lea	VII.	40
<i>genicula</i> , Conrad	VIII.	45	<i>Ussuriensis</i> , Gerstfeldt	II.	8
<i>Georgiana</i> , Lea	I.	4	<i>variata</i> , Frauenfeld	X.	58
<i>gigantea</i> , Busch	II.	7	<i>virescens</i> , Reeve	XI.	70
<i>Hainesiana</i> , Lea	VIII.	42	<i>viridis</i> , Hanley	IV.	20
<i>Hamiltoni</i> , Metcalfe	VI.	37	<i>viripara</i> , Studer	I.	3
<i>heterostropha</i> , Kirtland	VIII.	45	<i>vulgaris</i> , Gray	I.	4
<i>inflata</i> , Villa	IV.	19	<i>Wareana</i> , Shuttleworth	V.	23
<i>Ingallsianus</i> , Lea	VII.	39	<i>zonata</i> , Hanley	VI.	34



1.



2c.



2b.



3a.



4a.



4b.



3b.

PALUDINA.

PLATE I.

Genus PALUDINA, Lamarck.

Testa ovato-conica, plerumque umbilicata, interdum umbilico fere clauso, anfractibus quinque ad sex, lævigatis aut spiraliter funiculatis, epidermide fusco vel olivaceo-virente, interdum ciliatâ, indutis; aperturâ sæpissimè pyriformi-rotundatâ, labro simplici. Operculum corneum, concentricum, nucleo sublaterali.

Shell ovately conical, generally umbilicated, sometimes with the umbilicus almost closed, whorls five to six, smooth or spirally corded, covered with a brown or olive-green epidermis, which is sometimes ciliated; aperture most frequently pyriformly rounded, lip simple. Operculum horny, concentric, with the nucleus sublateral.

In studying the genus *Paludina* it is necessary to give especial attention to the animal. Dr. Gray noticed, as long back as 1821, in a paper in the 'London Medical Repository,' that two out of the four mollusks of our own streams hitherto regarded as *Paludinæ*, were distinguished by characters peculiarly their own, and the distinction has now been established in a very numerous series of foreign species. *Bithynia*, the genus proposed for their reception, is more numerous in species than *Paludina*. The animal differs, as we shall presently see, in being oviparous, in having the eyes sessile, the mantle comparatively simple, and the tentacles slender and thread-like, while the shells are uniformly smaller.

The *Paludinæ* are ovo-viviparous, the eggs being hatched in the ovary, whence, at the end of about two months, the young are ejected, three or four at a time, alive. The animal has a largely dilated foot, broad in front and attenuately rounded behind; the head is produced into a proboscis, and the tentacles, unlike those of *Bithynia*, are rather stout and cylindrical, with the eyes raised on short conjoined stalks. This modification in the position of the eyes, is apparently designed to make room for an organ at the outer base of the right tentacle, used for conveying water to the branchial chamber. It is in the form of a tubular lobe, and on the left side of the neck there is a corresponding lobe, to which no particular use is assigned. In the large *Ampullariæ* of the tropics, affecting situations where the water is more liable to be dried up, the animal is provided with a double system of respiration, having, in addition to the branchial chamber on the right side, a pulmonary chamber on the left side. The dormant lobe of *Paludina* is then developed into an elongated siphonic

tube, for the passage to this chamber of the air. In most of the marine water-breathing Cephals, the siphonic lobes, which appear in such a rudimentary form in *Paludina*, are combined into a conspicuous central tube adapted to the same use, and the shell is either notched in front for its reception, as in *Buccinum*, or extended into a long canal for its special protection, as in *Murex*.

The general distribution of *Paludina* over the globe, does not range with that of the inoperculated freshwater genera *Planorbis*, *Lymnæa*, or *Physa*. We have no record of its existence in South Australia, New Zealand, or Polynesia; nor does it appear in the West Indies or South America. About seventy species are known, of which rather more than two-thirds belong to the Eastern Hemisphere, and the remainder to North America. India and China, the chief area of habitation of this genus in the Old World, contribute about thirteen species, embracing several very characteristic varieties of form, sculpture, and painting. In some, the shells are conspicuously keeled, in others they are prettily banded, but green or olive-green is in all the predominant ground-colour. The Philippine Island rivers contribute only half-a-dozen comparatively insignificant species of *Paludina*, their place being occupied to a great extent by *Melaniæ*, remarkable for the size and exquisitely acuminate proportions of their shells; and in Ceylon the rapids, chiefly those flowing from Adam's Peak, are inhabited by a very characteristic group having peculiarly globose shells, *Tanalia* and *Paludomus*.

The remainder of the Old World *Paludinæ*, so far as they are at present known, are six from Borneo, Java, Celebes, six from Burmah and Siam (in which latter country the land and freshwater mollusks all present strikingly new specific forms), and nine from more northern latitudes, of which two are European, two Siberian, and five Japanese. Temperature, which has so marked an influence in the development of molluscan life among the land snails, as may be seen by comparing the West African and Philippine *Helices* and *Bulimi* with the European, or those of Bolivia and Venezuela with the North American, has comparatively little influence among the water snails. We have no such large *Physæ* in Britain as inhabit Australia and the West Indies, but in *Lymnæa stagnalis*, which ranges eastward and northward to Siberia, we have the largest species known of that genus; and we have also in Britain the largest known *Planorbis*. It is the same with *Paludina* in Russian Asia. The largest variety of the *P. gigantea* of Bengal is exceeded in size by *P. Ussuriensis*, a

April, 1863.

species collected by Gerstfeldt at the mouth of the Ussuri, a tributary of the Amoor, in Siberia, which is in the isothermal latitude of Iceland, little south of the line of permanent ground frost. The European *Paludina vivipara*, at least a light inflated form of similar structure and colour referred to that species, appears in North America, but the *Paludinæ* of that continent consist of fifteen species, chiefly of a peculiarly solid type, forming the genus *Melantho* of Bowditch.

Species 1. (Mus. Cuming.)

PALUDINA DOLIARIS. *Pal. testā ovatā, ventricosā, ferrugineo-olivaceā, liris nigricantibus funiculatā, anfractibus supernè obtusè angulatis, deinde modicè convexis; aperturā pyriformi-rotundatā.*

THE TONGUE PALUDINA. Shell ovate, ventricose, rusty-olive, corded with blackish ridges, whorls obtusely angled round the upper part, then moderately convex; aperture pyriformly rounded.

GOULD, Otia Conch. p. 191.

Hab. Burmah.

A bold rust-olive shell, corded throughout with dark raised ridges and lines.

Species 2. (Fig. a, b, Mus. Cuming.)

PALUDINA ANGULATA. *Pal. testā subfusiformi-ovatā, fuscā, virescente-olivaceo fasciatā, spirā elevatā, subpyramidalī, suturis angustè canaliculatis, anfractibus supernè concavo-declivibus, ad peripheriam tuberculis uni-biseriatim cinctis; aperturā trapezoidē.*

THE ANGLED PALUDINA. Shell somewhat fusiformly ovate, fuscous, banded with greenish-olive, spire raised, somewhat pyramidal, with the sutures narrowly channelled, whorls concavely sloping at the upper part, encircled at the periphery with a row of tubercles, sometimes with two rows; aperture trapezoid.

LEA, Trans. Amer. Phil. Soc. vol. ix. p. 22.

Vivipara magnifica (young), Binney.

Hab. Coosa River, Alabama.

Mr. Binney considers this species to have been founded on the young of *P. magnifica*.

Species 3. (Fig. a, b, Mus. Cuming.)

PALUDINA CONECTA. *Pal. testā scalariformi-turbinatā, profundè umbilicatā, intensè olivaceo-virente, fasciis tribus purpureo-rufis cingulatā, anfractibus subangustis, ad suturas appressis et constrictis, deinde tumido-convexis, striatis et malleatis; aperturā subpyriformi-rotundatis.*

THE COVERED PALUDINA. Shell scalariformly turbinated, deeply umbilicated, dark olive-green, encircled with three purple-red bands, whorls rather narrow, appressed and constricted at the sutures, then tumidly convex, striated and malleated; aperture somewhat pyriformly rounded.

Cyclostoma coniectum, Millet, Moll. Maine et Loire, p. 5.

Nerita vivipara, Müller (not *Helix vivipara*, Linnæus).

Cyclostoma viviparum, Draparnaud.

Natica vivipara, Férussac.

Lymnæa vivipara, Fleming.

Paludina vivipara, Studer.

Paludina crystallina, Gray.

Vivipara communis, Dupuy.

Paludina Listeri, Forbes and Hanley.

Hab. Central Europe.

This well-known species is distinguished from *P. vivipara* by its more scalariform growth, constricted at the sutures, and deep umbilicus.

Species 4. (Fig. a, b, Mus. Cuming.)

PALUDINA VIVIPARA. *Pal. testā obtusè ovatā, minutè compressè umbilicatā, subobesā, fulvo-olivaceā, fasciis tribus purpureo-rufis cingulatā, anfractibus latiusculis, convexis, confertim plicato-striatis; aperturā subpyriformi-ovatā.*

THE VIVIPAROUS PALUDINA. Shell obtusely ovate, minutely compressly umbilicated, rather stout, fulvous-olive, encircled with three purple-red bands, whorls rather broad, convex, closely plicately striated; aperture somewhat pyriformly ovate.

Helix vivipara, Linnæus, Syst. Nat. ed. 10. p. 772.

Nerita fasciata, Müller.

Helix fasciata, Gmelin.

Helix ventricosa, Olivi.

Helix compactilis, Pulteney.

Bulimus viviparus, Poiret.

Cyclostoma achatinum, Draparnaud.

Paludina achatina, Studer.

Paludina vulgaris, Gray.

Turbo achatinus, Sheppard.

Paludina vivipara, Say.

Paludina lineata, Valenciennes.

Paludina fasciata, Deshayes.

Paludina Georgiana, Lea.

Vivipara fasciata, Dupuy.

Vivipara vivipara, Binney.

Vivipara vera, Frauenfeld.

Hab. Central Europe.

Composed of a whorl less than the preceding species, the whorls being broader and more compactly coiled.



5.a.



5.b.



6.



7.



8.a.



9.



8.b.

PALUDINA.

PLATE II.

Species 5. (Fig. a, b, Mus. Cuming.)

PALUDINA BENGALENSIS. *Pal. testâ elevato-conicâ, tenui, virescente, nitente, saturatè viridi lineatâ et angustè fasciatâ; anfractibus convexis, lævibus, minutissimè decussatim striatis.*

THE BENGAL PALUDINA. Shell elevately conical, thin, greenish, shining, lineated and narrowly banded with dark-green; whorls convex, smooth, very minutely decussately striated.

LAMARCK, Anim. sans vert. vol. vi. part 2. p. 174. Delessert, Rec. Coq. pl. 1. f. 2.

Paludina elongata, Swainson.

Hab. North-west Provinces of Hindostan; Benson.

A shining pale-green shell, banded and lineated throughout with dark-green, sometimes turning to rusty-brown. The surface is very minutely engraved with impressed spiral striæ, decussating slightly-raised longitudinal striæ, which are striæ of growth.

Species 6. (Mus. Cuming.)

PALUDINA COSTATA. *Pal. testâ elevato-conicâ, ustulato-olivaceâ, anfractibus supernè plano-declivibus, deinde acutè angulatis, costis lirisque tenuibus filiformibus undique funiculatis, anfractu ultimo subventricosos, ad basin multistriato.*

THE RIBBED PALUDINA. Shell elevately conical, swarthy-olive, whorls flatly sloping round the upper part, then sharply angled, corded throughout with fine thread-like ribs and ridges, last whorl rather ventricose, many-striated at the base.

QUOY, Moll. Voy. de l'Astrol. pl. 80. f. 1 to 3.

Hab. Borneo.

Of a peculiar swarthy-olive colour, sharply angled at the shoulder, corded throughout with fine thread-like ribs and ridges, which are rather paler in colour, yellowish. It comes very near to *P. angularis*.

Species 7. (Mus. Cuming.)

PALUDINA GIGANTEA. *Pal. testâ elevato-conicâ, subventricosâ, virescente, saturatè viridi plus minus obscure*

fasciatâ et lineatâ, anfractibus supernè obtusè tumidis, deinde rotundatis, decussatim minutissimè striatis, striis longitudinalibus numerosis, confertis.

THE GIGANTIC PALUDINA. Shell elevately conical, rather ventricose, pale-green, more or less obscurely banded and lineated with dark-green, whorls obtusely swollen round the upper part, then rounded, decussately very minutely striated, longitudinal striæ numerous, close-set.

VON DEM BUSCH, MS. in Mus. Cuming.

Hab. Bengal; Central Africa.

It is somewhat doubtful whether this is not a light inflated form of *P. Bengalensis*; yet Mr. Cuming possesses a smaller brighter-coloured shell, from Central Africa, which has these peculiarities developed in a manner which would lead to the conclusion that it is distinct.

Species 8. (Fig. a, b, Mus. Cuming.)

PALUDINA USSURIENSIS. *Pal. testâ subgloboso-conicâ, flavescens, viridi tinctâ, rufo plerumque trifasciatâ, anfractibus supernè planulatis, deinde tumido-convexis, spiraliter carinatis, longitudinaliter irregulariter plicato-liratis, interstitiis malleatis et striatis.*

THE USSURI PALUDINA. Shell somewhat globosely conical, yellowish, tinged with green, generally encircled with three red bands, whorls a little flattened at the upper part, then tumidly convex, spirally keeled, longitudinally irregularly plicately ridged, interstices malleated and striated.

GERSTFELDT, Land und Süss. Moll. Sib. und Amur-Geb. part 1. p. 2. pl. 1. f. 1 to 4.

Hab. Mouth of the Ussuri, a tributary of the River Amoor, Siberia; Gerstfeldt.

A fine and very characteristic Siberian species, in which the whorls are keeled, but the keels are serrated by irregular longitudinal ridges and striæ, which are scarcely developed until the shell approaches maturity, and seem to indicate a departure from the typical symmetry of the plan of growth.

Species 9. (Mus. Cuming.)

PALUDINA OXYTROPIS. *Pal. testâ pyramidali-conicâ, tenui, ventricosâ, ferrugineâ, ustulato-fusco fasciatâ, anfractibus declivi-convexis, costis tribus distantibus regulariter funiculatis, infernè inflato-angulatis.*

THE STRONGLY-KEELED PALUDINA. Shell pyramidally conical, thin, ventricose, rust-stained, banded with burnt-brown, whorls slopingly convex, regularly

corded with three distant ribs, inflatedly angled at the lower part.

BENSON, Journ. Asiat. Soc. 1836, vol. v.

Paludina pyramidata, Von dem Buseh.

Hab. Bengal.

A pyramidally-conical shell, of light inflated growth, encircled throughout with three strongly-developed distant cord-like keels.



11a.



10.



11b.



12.



13a.



13b.



14.

PALUDINA.

PLATE III.

Species 10. (Mus. Cuming.)

PALUDINA PRÆROSA. *Pal. testâ conico-turbinatâ, crassâ, solidâ, olivaceâ, apice erosâ, anfractibus subangustis, ad suturas constrictis, deinde declivi-rotundatis, undique obliquè plicato-striatis, striis rudibus, valdè irregularibus.*

THE ERODED PALUDINA. Shell conically turbinated, thick, solid, olive, eroded at the apex, whorls rather narrow, constricted at the sutures, then slopingly rounded, everywhere obliquely plicately striated, striæ rude, very irregular.

GERSTFELDT, Land und Süss. Moll. Sib. und Amur-Geb. Part I. p. 5, pl. 1, f. 5 to 7.

Hab. Mouth of the Ussuri, a tributary of the river Amoor, Siberia; Gerstfeldt.

A shell of remarkably solid growth, unusually constricted at the sutures.

Species 11. (Fig. a, b, Mus. Cuming.)

PALUDINA CUMINGII. *Pal. testâ ovato-conicâ, olivaceâ; anfractibus subangustis, rotundatis, supernè impresso-planis, undique minutè decussatim striatis et malleatis.*

CUMING'S PALUDINA. Shell ovately conical, olive; whorls rather narrow, rounded, impressly flattened at the upper part, everywhere minutely decussately striated and malleated.

HANLEY, MS. in Mus. Cuming.

Hab. Calanang, Province of Baic, Island of Luzon, Philippines.

Distinguished from the European *P. contecta*, which it much resembles in the roundness of the whorls and in the decussately-striated malleated character of the surface, by the peculiar impressed flatness of their upper edge next the sutures. *Paludina Cumingii*, D'Orbigny, is a species of *Paludestrina*.

Species 12. (Mus. Cuming.)

PALUDINA AMPULLACEA. *Pal. testâ subgloboso-conicâ, flavescens-olivaceâ, anfractibus subangustis, tumido-rotundatis, longitudinaliter densè striatis et malleatis.*

THE BOTTLE PALUDINA. Shell somewhat globosely conical, yellowish-olive, whorls rather narrow, tumidly rounded, longitudinally densely striated and malleated.

CHARPENTIER, MS. in Mus. Cuming.

Hab. Italy.

This fine species is not striated spirally, but only longitudinally, and the whorls are unusually widely convoluted. It may prove to be a gigantic form of *P. contecta*.

Species 13. (Fig. a, b, Mus. Cuming.)

PALUDINA JAPONICA. *Pal. subpyramidalis-ovatâ, virescente-olivaceâ, nitente, anfractibus convexo-declivibus, infernè obtusè angulatis et carinatis, longitudinaliter plicato-striatis, striis versus aperturam confertioribus rugosis.*

THE JAPAN PALUDINA. Shell somewhat pyramidally ovate, greenish-olive, shining, whorls convexly sloping, obtusely angled and keeled round the lower part, longitudinally plicately striated, striæ closer and rough towards the aperture.

MARTENS, Malak. Blätt. vol. vii. p. 44.

Hab. Japan.

A very distinct form of *Paludina*, in which the whorls slope to an obtuse angle at the lower part, the angle falling in the place of the suture.

Species 14. (Mus. Cuming.)

PALUDINA ANGULARIS. *Pal. testâ elevato-conicâ, saturatè olivaceâ, anfractibus subangustis, fortiter decussatim striatis, supernè angulatis, costis tenuibus tribus, liris duabus in interstitiis, spiraliter funiculatis.*

THE ANGULAR PALUDINA. Shell elevately conical, dark-olive, whorls rather narrow, strongly decussately striated, angled round the upper part, spirally corded with three fine ribs, having two faint ridges in the interstices.

Nerita angularis, Müller, Hist. Verm. part 2. p. 187.

Helix angularis, Gmelin.

Paludina angularis, Philippi.

Hab. Manila, Island of Luzon, Philippines; Cuming.

Closely allied to *P. costata*, but it is a more delicately-formed shell, of a brighter olive colour.



15.



16.



17.



18.



19.



20.



21.

PALUDINA.

PLATE IV.

Species 15. (Mus. Cuming.)

PALUDINA INTERTEXTA. *Pal. testâ abbreviato-globosâ, intensè viridi, spirâ parum exsertâ, anfractibus subangustis, tumido-rotundatis, striis minutis crispato-punctatis undique decussatis.*

THE WOVEN PALUDINA. Shell shortly globose, dark-green, spire but little exerted, whorls rather narrow, tumidly rounded, decussated throughout with minute crisply-punctured striæ.

SAY, Amer. Conch. pl. 30. f. 3, 4.

Hab. New Orleans (in lakes and marshes); Say.

Of a curious, shortly-globose form, very dark green in colour, with the surface minutely superficially sculptured with decussating crisply-punctured striæ. *P. sinistrorsa*, Lea, may be a sinistral state of this species.

Species 16. (Mus. Cuming.)

PALUDINA BURROUGHIANA. *Pal. testâ conico-ovatâ, flavescente, anfractibus rotundatis, subobsoletè spiraliter multiliratis, undique malleatis et decussatim rugoso-striatis.*

BURROUGH'S PALUDINA. Shell conically ovate, yellowish, whorls rounded, rather obsoletely spirally many-ridged, everywhere malleated and decussately rugosely striated.

LEA, Trans. Amer. Phil. Soc. vol. v. pl. 19. f. 80.

Hab. Manilla, Island of Luzon, Philippines.

The only specimen I have been able to procure is characterized by a variety of sculpture, confusedly developed, and more or less obsolete. Mr. Lea figures one of much larger size, and darker olive-green colour, with the spiral ridges more defined.

Species 17. (Mus. Cuming.)

PALUDINA QUADRATA. *Pal. testâ pyramidal-conicâ, solidiusculâ, fusco-olivaceâ, anfractibus declivibus, plano-convexis, inferne obtusè angulatis et carinatis, longitudinaliter obliquè striatis, liris duabus vel tribus plus minus obsoletis interdum cinctis.*

THE SQUARED PALUDINA. Shell pyramidally conical, rather solid, brown-olive, whorls sloping, flatly convex, obtusely angled and keeled round the lower part,

longitudinally obliquely striated, sometimes encircled with two or three more or less obsolete ridges.

BENSON, Ann. and Mag. Nat. Hist. 1842. Phil. Abbild. vol. ii. p. 135. pl. 2. f. 5.

Hab. China.

Well distinguished by its solid pyramidally-conical form, obtusely angled at the base.

Species 18. (Mus. Cuming.)

PALUDINA CHINENSIS. *Pal. testâ ovato-ventricosâ, fusco-olivaceâ, anfractibus latiusculis, inflatis, obliquè longitudinaliter plicato-striatis, versus apicem malleatis.*

THE CHINA PALUDINA. Shell ovately ventricose, brown-olive, whorls rather broad, inflated, obliquely longitudinally plicately striated, malleated towards the apex.

GRAY, Griffith's Cuv. Anim. King. Moll. pl. 1. f. 5.

Hab. Chusan.

The whorls of this species are broader and more ventricose than in any other of the genus.

Species 19. (Mus. Cuming.)

PALUDINA INFLATA. *Pal. testâ conico-turbinatâ, flavescendo-olivaceâ, anfractibus subangustis, rotundatis, ad suturas profundè impressis, undique rugoso-malleatis et decussatim plicato-liratis et minutissimè striatis; aperturæ margine purpureo-nigro.*

THE INFLATED PALUDINA. Shell conically turbinated, yellowish-olive, whorls rather narrow, rounded, deeply impressed at the sutures, roughly malleated and decussately plicately ridged, and very minutely striated; margin of the aperture purple-black.

VILLA, Archiv. Skandinav. 1850, p. 330.

Hab. Sweeden; Austria.

The whorls of this species are rather more than usually pressed in at the sutures.

Species 20. (Mus. Cuming.)

PALUDINA VIRIDIS. *Pal. testâ elevato-conicâ, intensè viridi, anfractibus rotundatis, lævibus, ad suturas subconstrictis, sub lente undique minutè decussatim striatis.*

THE GREEN PALUDINA. Shell elevately conical, dark-green, whorls rounded, smooth, rather constricted at the sutures, beneath the lens minutely decussately striated throughout.

HANLEY, MS. in Mus. Cuming.

Hab. —?

An apparently smooth shell, of very dark green colour, but elaborately decussately striated beneath the lens.

Species 21. (Mus. Cuming.)

PALUDINA LECYTHOIDES. *Pal. testâ conico-ovatâ, sub-*

ventricosâ, flavescence-olivaceâ, obscure pallidissimè fasciatâ, anfractibus rotundatis, tumidiusculis, ad suturas subconstrictis, longitudinaliter irregulariter plicato-striatis.

THE YOLK-LIKE PALUDINA. Shell conically ovate, rather ventricose, yellowish-olive, obscurely very faintly banded, whorls rounded, rather swollen, slightly constricted, longitudinally irregularly plicately striated.

BENSON, Phil. Abbild. vol. ii. p. 133. pl. 2. f. 1.

Hab. Chusan.

A shell of very simple character, quite devoid of spiral striae.



22.



23.



24.



25.a.



26.a.



26b.



25.b.



27.



28.



29.

PALUDINA.

PLATE V.

Species 22. (Mus. Cuming.)

PALUDINA COOSAENSIS. *Pal. testā subglobosā, sordide olivaceā, spirā scalariformi, suturis valdè impressis, anfractibus subangustis, rotundatis, longitudinaliter corrugatis crispato-striatis, spiraliter lineari-incisis; aperturā lunato-circulari.*

THE COOSA PALUDINA. Shell subglobose, dusky-olive, spire scalariform, sutures very much impressed, whorls rather narrow, rounded, longitudinally corrugately crisply striated, spirally linearly engraved; aperture lunar-circular.

LEA, Trans. Amer. Phil. Soc. vol. ix. p. 23.

Vivipara Coosaensis, Binney.

Hab. Coosa River, Alabama, United States.

Distinguished by an impressly channelled suture, and a peculiar sculpture of longitudinal crisply wrinkled striae.

Species 23. (Mus. Cuming.)

PALUDINA WAREANA. *Pal. testā subgloboso-conicā, solidiusculā, olivaceā, anfractibus convexis, copiosè constricto-striatis; aperturā lunari-ovatā, parviusculā.*

THE WARE PALUDINA. Shell subglobosely conical, rather solid, olive, whorls convex, copiously constrictedly striated; aperture lunar-ovate, rather small.

SHUTTLEWORTH, Küster, Conch. Cab. p. 21. pl. iv. f. 10. 11.

Vivipara Wareana, Binney.

Hab. Lake Ware, East Florida, United States.

According to the specimen preserved in Mr. Cuming's collection as a type of this species, it is a shell of rather solid growth, densely constrictedly striated throughout, but yet thin and transparent towards the aperture.

Species 24. (Mus. Cuming.)

PALUDINA TEXANA. *Pal. testā subpyramidal-conicā, solidā, virescente, suturis impressis, anfractibus plano-declivibus, medio subconcavis, ad basin rotundatis; aperturā pyriformi-circulari, parviusculā.*

THE TEXAS PALUDINA. Shell somewhat pyramidally conical, solid, light green, sutures impressed, whorls flatly sloping, slightly concave in the middle, rounded

at the base; aperture pyriformly circular, rather small.

Vivipara Texana, Tryon, Pro. Acad. Nat. Sci. Phil. 1862.

Vivipara subpurpurea, var., Binney.

Hab. Texas, United States.

This species has been lately described by Mr. Tryon. Mr. Binney considers it a variety of *P. subpurpurea*; but if the specimen here figured can be relied upon as a type, and I know not to what other species it can be referred, *P. Texana* should, I think, be retained.

Species 25. (Fig. a, b, Mus. Cuming.)

PALUDINA MALLEATA. *Pal. testā globoso-conicā, sub-inflatā, vividè olivaceā, anfractibus rotundatis, longitudinaliter copiosè plicato-striatis, spiraliter obscure lineari-puncturatis, ubique malleatis; aperturā pyriformi-ovatā, labro nigro-marginato.*

THE MALLEATED PALUDINA. Shell globosely conical, rather inflated, bright olive, whorls rounded, longitudinally copiously plicately striated, spirally obscurely linearly punctured, everywhere malleated; aperture pyriformly ovate, lip black-edged.

Hab. Japan.

This and the following Japanese species differ from the American species of similar form, *P. intertexta* for example, in being malleated throughout.

Species 26. (Fig. a, b, Mus. Cuming.)

PALUDINA ABBREVIATA. *Pal. testā globosā, nigricante-olivaceā, spirā abbreviatā, anfractibus rotundatis, ad suturas appressis, infernè obsoletè angulatis, longitudinaliter copiosè constricto-striatis, spiraliter obscure lineari-puncturatis, ubique malleatis; aperturā pyriformi-ovatā, labro nigro-marginato.*

THE SHORTENED PALUDINA. Shell globose, dark olive, spire shortened, whorls rounded, appressed at the sutures, obsoletely angled round the lower part, longitudinally copiously constrictedly striated, spirally obscurely linearly punctured, everywhere malleated; aperture pyriformly ovate, lip black-edged.

Hab. Japan.

Similar to the preceding species in detail of character,

but of different form. The spire is abbreviated, impressing the sutures into a canal, and they are obscurely obtusely angled round the lower part.

Species 27. (Mus. Cuming.)

PALUDINA MELANOSTOMA. *Pal. testá globoso-conicá, flavescen-
cente-olivaceá, infernè pallidè fasciatá, anfractibus
convexis, subinflatis, ubique malleatis et minutè punc-
turatis; aperturá pyriformi-circulari, parviusculá.*

THE BLACK-MOUTHED PALUDINA. Shell globosely conical, yellowish-olive, faintly banded round the lower part, whorls convex, rather inflated, everywhere malleated and minutely punctured; aperture pyriformly circular, rather small.

BENSON, MS.

Hab. Bengal.

A faintly banded shell, with a malleated surface, crowded throughout with minute punctures.

Species 28. (Mus. Anthony.)

PALUDINA BERMONDIANA. *Pal. testá profundè angustè*

*umbilicatá, globosá, flavescen-
cente-olivaceá, purpureo con-
spicuè trifasciatá, spirá brevi, anfractibus rotundatis,
ad suturas impressis, densè longitudinaliter striatis;
aperturá ovatá.*

BERMOND'S PALUDINA. Shell deeply narrowly umbilicated, globose, yellowish-olive, encircled with three conspicuous purple bands, spire short, whorls rounded, impressed at the sutures, closely longitudinally striated; aperture ovate.

D'ORBIGNY, Moll. Cuba, p. 7. pl. 10. f. 5.

Hab. Cuba.

A compact, closely convoluted shell, with a small spire, and narrow deep umbilicus, encircled with three very distinct purple bands, the upper one of which is in the suture.

Fig. 29. (Mus. Cuming.)

The shell here figured, *Paludina nucleus* of Mousson, inhabiting the vicinity of Constantinople, appears to me to be a variety of *P. vivipara*.



31.



30.



32.



33.a.



34.



35.



33.b.



36.a.



36.b.



37.

PALUDINA.

PLATE VI.

Species 30. (Mus. Cuming.)

PALUDINA AMPULLARIOIDES. *Pal. testâ subgloboso-conicâ, solidiusculâ, fuscescente-olivaceâ, purpureo irregulariter lineari-fasciatâ, anfractibus rotundatis, ad suturas subangulato-appressis, ubique minutè puncturatis; aperturâ pyriformi-ovatâ.*

THE AMPULLARIA-LIKE PALUDINA. Shell somewhat globosely conical, rather solid, dusky olive, irregularly linearly banded with purple, whorls rounded, rather angularly appressed at the sutures, minutely punctured throughout; aperture pyriformly ovate.

HANLEY, MS. in Mus. Cuming.

Hab. — ?

A very distinct minutely punctured species, of rather solid growth, encircled very irregularly with purple bands, some of which are quite linear.

Species 31. (Mus. Cuming.)

PALUDINA FILOSA. *Pal. testâ ovato-conicâ, flavescente-olivaceâ, nitente, fasciis quatuor linearibus æquidistantibus nigris cingulatâ, anfractibus convexis, lævibus, sub lente obsolete minutè puncturatis; aperturâ subcirculari.*

THE THREAD-ENCIRCLED PALUDINA. Shell ovately conical, yellowish-olive, shining, encircled with four equidistant black linear bands, whorls convex, smooth, beneath the lens obsolete minutely punctured; aperture nearly circular.

HANLEY, MS. in Mus. Cuming.

Hab. — ?

Another very characteristic species, with a shining yellowish-olive surface neatly ruled with black linear bands.

Species 32. (Mus. Cuming.)

PALUDINA CEYLANICA. *Pal. testâ ovato-conicâ, solidiusculâ, virescente-olivaceâ, anfractibus plano-convexis, supernè et infernè declivi-angulatis, ubique densè spiraliter lineari-striatis et puncturatis, ad angulos obtusè carinatis; aperturâ pyriformi-ovatâ, nigro-marginatâ.*

THE CEYLON PALUDINA. Shell ovately conical, rather solid, greenish-olive, whorls flatly convex, flatly angled

above and below, everywhere closely spirally linearly striated and punctured, obtusely keeled at the angles aperture pyriformly ovate, black-edged.

DOHRN, Pro. Zool. Soc. 1857, p. 123.

Hab. Ceylon.

Readily recognized by its obtusely-angled form and dense sculpture of spiral lines and punctures.

Species 33. (Fig. a, b, Mus. Cuming.)

PALUDINA CRASSA. *Pal. testâ ovato-turbinatâ, solidâ, flavescente-olivaceâ, anfractibus rotundatis, ad suturas constrictis, obliquè plicato-striatis, spiraliter minutissimè undato-striatis et puncturatis; aperturâ ferè circulari, nigro-marginatâ.*

THE THICK PALUDINA. Shell ovately turbinated, solid, yellowish-olive, whorls rounded, constricted at the sutures, obliquely plicately striated, spirally very minutely wave-striated and punctured; aperture nearly circular, black-edged.

HUTTON, Benson, Journ. Asiat. Soc. 1836, p. 745.

Paludina obtusa, Troschel.

Hab. Jaunpore, India; Burmah.

Of a peculiarly solid constricted growth, copiously minutely punctured, like most Eastern species.

Species 34. (Mus. Cuming.)

PALUDINA ZONATA. *Pal. testâ angustè subprofundè umbilicatâ, ovato-conicâ, viridè virente-olivaceâ, nitente, fasciis nigris linearibus nitidis cingulatâ, anfractibus lævibus, sub lente minutè puncturatis; aperturâ pyriformi-circulari, nigro-marginatâ.*

THE ZONED PALUDINA. Shell narrowly rather deeply umbilicated, ovately conical, bright greenish-olive, shining, encircled with neat black linear bands, whorls convex, smooth, beneath the lens minutely punctured; aperture pyriformly circular, black-edged.

HANLEY, MS. in Mus. Cuming.

Hab. Mauritius.

Another shining black-banded species of the same bright porcelain-like type as *P. filosa* figured above it.

Species 35. (Mus. Cuming.)

PALUDINA PRÆMORSA. *Pal. testâ ovato-conicâ, olivaceâ, anfractibus convexis, longitudinaliter minutè decussatim crispato-striatis, spiraliter densè minutissimè puncturatis; aperturâ pyriformi-circulari, nigro-marginatâ.*

THE ERODED PALUDINA. Shell ovately conical, olive, whorls convex, longitudinally minutely decussately crisply striated, spirally densely very minutely punctured; aperture pyriformly circular, black-edged.

BENSON MS., Philippi (misprinted *Remossii*), Abbild. und Besch. Conch. vol. ii. p. 134. pl. 2. f. 3.

Hab. Bengal.

I have the authority of Mr. Benson for stating that the name *Remossii* published by Philippi, and adopted by Küster and Frauenfeld, is a mistaken reading of the name *præmorsa*, communicated by Mr. Benson to Dr. Philippi in manuscript. As there is no such person as Remosse, that name must be cancelled.

Species 36. (Fig. a, b, Mus. Cuming.)

PALUDINA CILIATA. *Pal. testâ profundè angustè umbilicatâ, ovato-conicâ, solidâ, olivaceo-viridi, versus apicem purpurascente tinctâ, anfractibus convexis, undique spiraliter lineari-ciliatis, juxta suturas angustè angulatis, angulo versus aperturam evanido, anfractu ultimo circa umbilicum excavato et umbilicato; aperturâ pyriformi-circulari, vividè nigro-marginatâ.*

THE EYE-LASH PALUDINA. Shell deeply narrowly umbilicated, ovately conical, solid, olive-green, purpletinged towards the apex, whorls convex, spirally linearly eyelashed throughout, narrowly angled next the sutures, angle disappearing towards the aperture, last whorl excavated and keeled around the umbilicus; aperture pyriformly circular, with a shining black edge.

Hab. Siam; Mouhot.

This very remarkable and beautiful species, encircled throughout with minute bristly hair-lashes, was collected the year before last by the unfortunate Mouhot.

Species 37. (Mus. Cuming.)

PALUDINA HAMILTONI. *Pal. testâ angustè profundè umbilicatâ, attenuatim conico-ovatâ, intensè olivaceâ, spirâ elatâ, anfractibus rotundatis, juxta suturas appressis, minutè decussatim striatis, ultimo circa umbilicum subexcavato; aperturâ pyriformi-circulari.*

HAMILTON'S PALUDINA. Shell narrowly deeply umbilicated, attenuately conically ovate, dark olive, spire raised, whorls rounded, appressed next the suture, minutely decussately striated, last whorl a little excavated around the umbilicus; aperture pyriformly circular.

METCALFE, Pro. Zool. Soc. 1851, p. 73.

Hab. Borneo.

A species apparently of an ordinary character, but partaking of the Siam type in being angularly excavated, though in a slight degree, around the umbilicus.



38.b.



38.a.



38.c.



39.a.



40.a.



40.b.



39.b.



41.a.



41.b.



41.c.

PALUDINA.

PLATE VII.

Species 38. (Fig. *a, b, c*, Mus. Cuming.)

PALUDINA POLYZONATA. *Pal. testá subpyramidali-conicá, flavescence-olivaceá, nigricante-fusco lineari-fasciatá, anfractibus declivi-convexis, ad basin angulatis, carinis subdistantibus undique funiculatis; aperturá ovatá, margine columellari subcalloso, carneo tincto.*

THE MANY-ZONED PALUDINA. Shell somewhat pyramidally conical, yellowish-olive, linearly banded with dark brown, whorls slopingly convex, angled at the base, corded throughout with rather distant keels; aperture ovate, columellar margin rather callous, flesh-tinted.

Vivipara polyzonata, Frauenfeld, Ueb. die Gatt. p. 4.

Hab. Philippine Islands.

Of the same peculiar type as *P. oxytropis* of Bengal, but of more solid growth and smaller. The cords in each species are conspicuously raised.

Species 39. (Fig. *a, b*, Mus. Cuming.)

PALUDINA INGALLSIANUS. *Pal. testá obliquè pyramidali-conicá, cinereo-viridi, olivaceo strigatá et variegatá, spirá elatá, acutá, anfractibus declivi-convexis, obliquè plicato-corrugatis et crispato-striatis, spiraliter minutè puncturatis, anfractu ultimo infra peripheriam unicarinato; aperturá pyriformi-ovatá, fauce callosá, albá.*

INGALLS' PALUDINA. Shell obliquely pyramidally conical, ash-green, streaked and variegated with olive, spire elevated, sharp, whorls slopingly convex, obliquely plicately wrinkled and crisply striated, spirally minutely punctured, last whorl encircled with a keel below the periphery; aperture pyriformly ovate, interior callous, white.

LEA, Pro. Acad. Nat. Sci. Phil. June, 1856.

Hab. Japan.

This fine and remarkable species, of which there are many varieties known, was described by Mr. Lea, from specimens collected in Japan by Mr. Ingalls, an American missionary.

Species 40. (Fig. *a, b*, Mus. Cuming.)

PALUDINA UMBILICATA. *Pal. testá subobtectè umbilicatá, pyramidali-conicá, subabbreviatá, solidá, flavescence-olivaceá, versus apicem purpureo-cinereá, anfractibus supernè appressè rotundatis, deinde plano-convexis, ad basin carinatis et angulatis, undique obliquè arcuatim striatis, spiraliter minutè puncturatis; aperturá subquadrato-ovatá, fauce callosá, albá.*

THE UMBILICATED PALUDINA. Shell with a covered umbilicus, pyramidally conical, rather shortened, solid, yellowish-olive, purple-ash towards the apex, whorls appressly rounded at the upper part, then flatly convex, keeled and angled at the base, everywhere obliquely arcuately striated, spirally minutely punctured; aperture somewhat squarely ovate, interior callous, white.

LEA, Pro. Acad. Nat. Sci. Phil. June, 1856.

Hab. Siam; Mouhot.

Curiously allied in typical character to the Japanese *P. Ingallsiana*, but of a peculiar shortened subquadrate form.

Species 41. (Fig. *a, b, c*, Mus. Cuming.)

PALUDINA ÆRUGINOSA. *Pal. testá subangustè pyramidali-conicá, intensè cæruleo-viridi, anfractibus declivi-convexis, interdum versus basin obtusè carinatis, ubique obliquè plicato-striatis, sub lente spiraliter obsoletè minutissimè puncturatis; aperturá pyriformi-ovatá.*

THE BRONZE PALUDINA. Shell rather narrowly pyramidally conical, dark blue-green, whorls slopingly convex, sometimes obtusely keeled towards the base, everywhere obliquely plicately striated, beneath the lens spirally obsoletely very minutely punctured; aperture pyriformly ovate.

Hab. China.

Very closely allied to *P. quadrata*, from the same locality, the specimens are uniformly lighter, and of a peculiar bronze blue-green colour.



43.



42.



44.



45a.



46a.



46b.



45b.



45c.



45d.



47.

PALUDINA.

PLATE VIII.

Species 42. (Mus. Cuming.)

PALUDINA HAINESIANA. *Pal. testā obliquè globosā, solidā, olivaceā, anfractibus ad suturas impressis, deinde declivi-convexis, versus basin gibbosis, ubique obliquè plicato-striatis, spiraliter minutissimè puncturatis; aperturā ovatā.*

HAINES' PALUDINA. Shell obliquely globose, solid, olive, whorls impressed at the sutures, then slopingly convex, gibbous towards the base, everywhere obliquely plicately striated, spirally very minutely punctured; aperture ovate.

LEA, MS. in Mus. Cuming.

Hab. Siam.

A solid globose shell, still bearing a crowded profusion of the very minute punctures characteristic of the Eastern species.

Species 43. (Mus. Cuming.)

PALUDINA CYCLOSTOMATIFORMIS. *Pal. testā cylindraco-turritā, solidā, olivaceā, anfractibus rotundatis, lævibus, ad suturas constricto-impressis; aperturā obliquè ovatā, parvā.*

THE CYCLOSTOMA-SHAPED PALUDINA. Shell cylindrically turreted, solid, olive, whorls rounded, smooth, constrictedly impressed at the sutures; aperture obliquely ovate, small.

LEA, Trans. Amer. Phil. Soc. vol. ix. part i. p. 23.

Paludina contorta, Shuttleworth.

Paludina Elliotti, Lea.

Vivipara Cyclostomatiformis, Binney.

Hab. Coosa River, Alabama, United States.

Well distinguished from all other species of the genus by its narrow cylindrically-turreted form and small aperture.

Species 44. (Mus. Cuming.)

PALUDINA SUBCARINATA. *Pal. testā globoso-turritā, flavescente-olivaceā, spirā ad apicem acutā, carneo-tinctā, suturis impresso-canaliculatis, anfractibus rotundatis, minutè decussatim undato-striatis, supernè obtusè carinatis; aperturā obliquè ovatā.*

THE FAINTLY-KEELED PALUDINA. Shell globosely turreted, yellowish-olive, spire sharp at the apex, flesh-tinted, sutures impressly channelled, whorls rounded,

minutely decussately wave-striated, obtusely keeled round the upper part, aperture obliquely ovate.

SAY, Nicholson Ency. pl. i. f. 7.

Paludina sulculosa, Menke.

Paludina bicarinata, Potiez and Michaud.

Helix decisa, Wood.

Hab. Alabama, Ohio, etc., United States.

Sharp-pointed and flesh-tinged at the apex, whorls rudely tumidly rounded next the sutures, and presenting one or two obtusely developed keels.

Species 45. (Fig. a, c, d, Mus. Anthony; Fig. b, Mus. Cuming.)

PALUDINA DECISA. *Pal. testā ovatā, plus minus conicā, solidā, vividè virescente-olivaceā, anfractibus concavis, sub lente minutissimè reticulato-striatis, ad suturas rudè appressis; aperturā pyriformi-ovatā, fauce callosā, cærulescente-albā.*

THE ERODED PALUDINA. Shell ovate, more or less conical, solid, bright greenish-olive, whorls concave, beneath the lens very minutely reticulately striated, rudely appressed at the sutures; aperture pyriformly ovate, callous, bluish-white within.

SAY, Nicholson Ency. pl. 3. f. 5.

Paludina integra and *ponderosa*, Say.

Paludina genicula, Conrad.

Paludina limosa, *cornea*, and *ovularis*, Valenciennes.

Paludina heterostropha, Kirtland.

Paludina rufa, Haldeman.

Helix dissimilis, Wood.

Paludina subsolida, Anthony.

Vivipara ponderosa and *decisa*, Binney.

Hab. Alabama, Georgia, Ohio, etc., United States.

Far too many species have been made of this well-known and somewhat variable species. The extreme forms are Say's *P. integra* (Fig. 45 a), in which the spire is elevated, and Conrad's *P. genicula* (Fig. 45 c, d), in which it is contracted. Kirtland's *P. heterostropha* is the same form reversed. Say's *P. ponderosa* (Fig. 45 b) is an intermediate form of rudely-developed thickened growth.

Species 46. (Fig. 46 a, Mus. Anthony.)

PALUDINA COARCTATA. *Pal. testā pyramidal-conicā,*

solidá, virescente-olivaceá, anfractibus ad suturas constrictis, deinde declivi-convexis, planiusculis, sub lente minutè decussatim undato-striatis; aperturá subtrigono-ovatá, parviusculá.

THE CONTRACTED PALUDINA. Shell pyramidally conical, solid, greenish-olive, whorls constricted at the sutures, then slopingly convex, rather flat, beneath the lens minutely decussately wave-striated; aperture somewhat triangularly ovate, rather small.

LEA, Trans. Amer. Phil. Soc. vol. ix. p. 30.

Paludina exilis, Anthony.

Vivipara coarctata, pars, Binney.

Hab. Mississippi, United States.

I follow Mr. Binney in referring Mr. Anthony's *P. exilis* to Mr. Lea's *P. coarctata*, but cannot agree with him in referring Mr. Anthony's *P. lima* to the same species. I am indebted to the assiduous conchologist of Cincinnati for the loan of the same typical specimens of which Mr. Binney has given outline sketches in his monograph. Here they are represented in finished drawings, and no figures could be more characteristic. It will be seen by the numbering of the figures that I determined in the first instance to follow Mr. Binney in giving Mr. Anthony's *P. exilis* and *lima* as varieties of one and the same species, but on a further examination of their characters in detail, I revert to the opinion that they are distinct.

Species 47. (Mus. Anthony.)

PALUDINA SUBPURPUREA. *Pal. testá subcylindraco-turritá, solidá, olivaceá, purpurascente pallidissimè tinctá,*

anfractibus ad suturas rudè constrictis, supernè declivi-contractis, deinde rotundatis, undique plicato-striatis; aperturá pyriformi-circulari, parviusculá.

THE PURPLE-TINGED PALUDINA. Shell somewhat cylindrically turreted, solid, olive, very faintly tinged with purple, whorls rudely constricted at the sutures, slopingly contracted round the upper part, then rounded, plicately striated throughout; aperture pyriformly circular, rather small.

SAY, Amer. Conch. vol. iii. pl. 30. f. 2.

Hab. Southern and western United States.

This species may be readily distinguished by the slopingly contracted growth of the upper part of the whorls, and their constriction at the sutures.

Species 48. (Fig. 46 b, Mus. Anthony.)

PALUDINA LIMA. *Pal. testá oblongo-ovatá, virescente-olivaceá, anfractibus convexis, undique spiraliter subremotè obtusè liratis, interstitiis concaviusculis, striis minutis undulatis decussatis; aperturá ovatá.*

THE FILE PALUDINA. Shell oblong-ovate, greenish-olive, whorls convex, spirally obtusely rather distantly ridged throughout, interstices slightly concave, decussated with minute waved striæ; aperture ovate.

ANTHONY, Acad. Nat. Sci. Phil. 1860, p. 70.

Vivipara coarctata, pars, Binney.

Hab. South Carolina, United States.

Obviously distinguished from *P. coarctata* by its light oblong-ovate form and characteristic sculpture.



49.



50a.



50b.



51.



52.



54.



53.



55.



57.



56.

PALUDINA.

PLATE IX.

Species 49. (Mus. Cuming.)

PALUDINA THERSITES. *Pal. testā globosā, fulvo-olivaceā, spirā brevi, subimmersā, suturis canaliculatis, anfractibus supernè obtusè multicarinatis; aperturā parviusculā.*

THE THERSITES PALUDINA. Shell globose, fulvous-olive, spire short, somewhat immersed, sutures channelled, whorls obtusely many-keeled round the upper part; aperture rather small.

HANLEY, MS. in Mus. Cuming.

Hab. —?

The spire is in this species curiously immersed, but it is not a deformity of growth. There is another equally characteristic specimen in the British Museum.

Species 50. (Fig. a, b, Mus. Cuming.)

PALUDINA LINEOLATA. *Pal. testā ovato-conicā, virescente, nigricante-olivaceo multilineatā, anfractibus lævibus, supernè declivibus, deinde convexis; aperturā parviusculā, pyriformi-rotundatā.*

THE LINEATED PALUDINA. Shell ovately conical, greenish, many-lineated with dark-olive, whorls smooth, sloping round the upper part, then convex; aperture rather small, pyriformly rounded.

MOUSSON, MS. in Mus. Cuming.

Hab. Siam.

A smooth linearly-painted shell, of the same type as *P. Bengalensis*, uniformly smaller and of a more slopingly conical form.

Species 51. (Mus. Cuming.)

PALUDINA FALLAX. *Pal. testā ovato-conicā, subinflatā, virescente-olivaceā, anfractibus supernè subangulatis, obscurissimè carinatis et malleatis, undique minutè grano-striatis; aperturā pyriformi-ovatā.*

THE DECEPTIVE PALUDINA. Shell ovately conical, rather inflated, greenish-olive, whorls faintly angled round the upper part, very obscurely keeled and malleated, everywhere minutely grain-striated; aperture pyriformly ovate.

Vivipara fallax, Frauenfeld, Ueber die Gattung *Vivipara*, November, 1862.

Hab. Brazils? Madras?

Having compared this shell in Mr. Cuming's collection with Frauenfeld's original type of *P. fallax*, I can affirm, without any doubt, that they are the same. The habitat "Brazils," which Mr. Cuming has with it, may be erroneous. Frauenfeld gives Madras.

Species 52. (Mus. Cuming.)

PALUDINA JAVANICA. *Pal. testā ovato-conicā, solidiusculā, nigricante-olivaceā, anfractibus convexis, obscurissimè carinatis, undique validè lineari-striatis, longitudinaliter plicato-striatis, anfractu ultimo circa umbilicum angulato-excavato; aperturā pyriformi-ovatā.*

THE JAVA PALUDINA. Shell ovately conical, rather solid, dark-olive, whorls convex, very obscurely keeled, strongly linearly striated throughout, plicately striated longitudinally, last whorl angularly excavated around the umbilicus; aperture pyriformly ovate.

VON DEM BUSCH, Albild. und Besch. Conch. pl. 1. f. 11, 12.

Hab. Java.

In this species the granular striæ assume the form of linear ridges, and longitudinal striæ descend in a plicated manner from the sutures.

Species 53. (Mus. Cuming.)

PALUDINA CARINATA. *Pal. testā subgloboso-conicā, fulvā, obscurissimè fasciatā, anfractibus rotundatis, primo ad marginem inferiorem carinatis, deinde striis undulatis sericeis undique confertim decussatis; aperturā ovatā.*

THE KEELED PALUDINA. Shell somewhat globosely conical, fulvous, very faintly banded, whorls rounded, at first keeled at the lower margin, then very closely decussated throughout with waved silken siræ; aperture ovate.

Hab. Philippine Islands.

Of a peculiar fulvous colour, keeled round the lower edge of all but the last whorl, in which the keel fades away.

Species 54. (Mus. Anthony.)

PALUDINA MAGNIFICA. *Pal. testā subpyramidalis-ovatā, solidā, fusco-olivaceā, suturis profundè canaliculatis, anfractibus supernè plicato-marginatis, deinde concavis, deinde tuberculis biserialim cinctis; aperturā parviusculā, trapezoideā.*

THE MAGNIFICENT PALUDINA. Shell somewhat pyramidally ovate, solid, brown-olive, sutures deeply channelled, whorls plicately margined round the upper part, then concave, then encircled with two rows of tubercles; aperture rather small, trapezoid.

CONRAD, New Freshwater Shells, p. 48. pl. 8. f. 4.

Paludina bimonilifera, Lea.

Vivipara magnifica, Binney.

Hab. Alabama and Georgia, United States.

This fine species is remarkably distinct from any other form of the genus, and partakes largely of the generic character of *Melania*.

Species 55. (Mus. Cuming.)

PALUDINA AMPLIOR. *Pal. testā ovato-conicā, subinflatā, virescente-olivaceā, anfractibus convexis, undique minutè grano-striatis, ultimo infernè obscurissimè angulato; aperturā ovatā.*

THE LARGER PALUDINA. Shell ovately conical, rather inflated, greenish-olive, whorls convex, minutely grain-striated throughout, the last very obscurely angled round the lower part; aperture ovate.

MOUSSON, MS. in Mus. Cuming.

Hab. — ?

It is somewhat doubtful whether this is not a variety of *P. Javanica*.

Species 56. (Mus. Cuming.)

PALUDINA DISSIMILIS. *Pal. testā acuminato-ovatā, cinereo-olivaceā, anfractibus supra et infra angulatis, subtiliter lineari-carinatis et grano-striatis, ultimo circa umbilicum angulato-excavato; aperturā parviusculā, pyriformi-ovatā.*

THE DISSIMILAR PALUDINA. Shell acuminate ovate, ash-olive, whorls angled above and below, finely linearly keeled and grain-striated, last whorl angularly excavated around the umbilicus; aperture rather small, pyriformly ovate.

MÜLLER, MS. in Mus. Cuming.

Hab. — ?

I give this shell as I find it in Mr. Cuming's collection. It is an unsatisfactory species, not well authenticated, and has much the appearance of a young *P. Ingallsiana*.

Species 57. (Mus. Cuming.)

PALUDINA INTERMEDIA. *Pal. testā globoso-conicā, subinflatā, fuscescente-olivaceā, anfractibus supernè subangulato-impressis, infernè obscurè carinatis, undique minutè grano-striatis, longitudinaliter plicato-striatis; aperturā pyriformi-ovatā.*

THE INTERMEDIATE PALUDINA. Shell globosely conical, rather inflated, fuscous-olive, whorls subangularly impressed round the upper part, obscurely keeled at the lower, minutely grain-striated throughout, plicately striated longitudinally; aperture pyriformly ovate.

HANLEY, MS. in Mus. Cuming.

Hab. — ?

Allied to *P. Javanica*, but of a more depressly globose form, reticulately decussated with the characteristic plicate and granular striæ.



59.



58



60.



61.



62.



63.



64.



65.a.



65.b.



66.

PALUDINA.

PLATE X.

Species 58. (Mus. Cuming.)

PALUDINA VARIATA. *Pal. testā ovato-conicā, sordide olivaceā, anfractibus rotundatis, subangustis, supernè subimpressis, striis sericeis undulatis confertim decussatis; aperturā parviusculā, ovatā.*

THE VARIED PALUDINA. Shell ovately conical, dull-olive, whorls rounded, rather narrow, faintly impressed round the upper part, closely decussated with waved silken striæ; aperture rather small, ovate.

Vivipara variata, Frauenfeld, Ueber die Gattung *Vivipara*, November, 1862.

Hab. Pondicherry,

Of very simple character, known to me only by a single specimen received from M. Frauenfeld.

Species 59. (Mus. Cuming.)

PALUDINA NITENS. *Pal. testā conico-ovatā, virescente-olivaceā, nitente, anfractibus declivi-convexis, minutè decussatim striatis, infernè angulatis, angulo in anfractu ultimo evanido; aperturā ovatā.*

THE SHINING PALUDINA. Shell conically ovate, greenish-olive, shining, whorls slopingly convex, minutely decussately striated, angled at the lower part, angle in the last whorl fading away; aperture ovate.

Hab. Japan.

A minutely-sculptured shining olive shell, obscurely angled around a small umbilicus.

Species 60. (Mus. Cuming.)

PALUDINA ÆTHIOPS. *Pal. testā globoso-ovatā, subcylindraceā, tenui, semipellucidā, virescente-olivaceā, anfractibus obtusè convexis, undique minutè striatis et malleatis, anfractu ultimo infernè exiliter angulato; aperturā pyriformi-ovatā, labro nitente-nigro.*

THE NEGRO PALUDINA. Shell globosely ovate, subcylindrical, thin, semitransparent, greenish-olive, whorls obtusely convex, minutely striated and malleated throughout, last whorl finely angled round the lower part; aperture pyriformly ovate, lip shining-black.

Hab. Central Africa.

An interesting semitransparent dark-green shell, with a conspicuous shining-black lip, of a subcylindrical pupoid form.

Fig. 61. (Mus. Cuming.)

This shell proves to be a variety of Swainson's *P. carinata*, described in the preceding Plate, with a conspicuous shining-black lip.

Species 62. (Mus. Frauenfeld.)

PALUDINA FORMOSULA. *Pal. testā obeso-ovatā, sordide olivaceā, anfractibus supernè nitide declivi-angulatis, deinde plano-convexis, infernè exiliter angulatis, spiralliter grano-striatis, striis subdistantibus, umbilico subexcavato; aperturā ovatā.*

THE BEAUTIFUL PALUDINA. Shell stoutly ovate, dingy-olive, whorls neatly slopingly angled round the upper part, then flatly convex, faintly angled round the lower part, spirally grain-striated, striæ rather distant, umbilicus somewhat excavated; aperture ovate.

Vivipara formosula, Frauenfeld, Ueber die Gattung *Vivipara*, November, 1862.

Hab. — ?

Chiefly distinguished from *P. Javanica* by its more angular form and more widely separated spiral striæ.

Fig. 63. (Mus. Cuming.)

The specimen here figured appears to be one of the United States species; probably *P. lima*.

Species 64. (Mus. Cuming.)

PALUDINA FULVA. *Pal. testā ovato-conicā, solidiusculā, fulvā, anfractibus rotundatis, obscure minutè decussatim striatis, umbilico obtecto; aperturā pyriformi-ovatā.*

THE FULVOUS PALUDINA. Shell ovately conical, rather solid, fulvous, whorls rounded, obscurely minutely decussately striated, umbilicus covered; aperture pyriformly ovate.

Hab. Cambojia; Mouhot.

This shell resembles, in general appearance, the *P. carinata* of Ceylon and Philippine Islands, but there is no keel at the base of the upper whorls, and the striation is different.

Species 65. (Mus. Cuming.)

PALUDINA SUMATRENSIS. *Pal. testā ovato-conicā, solidiusculā, flavescēte-olivaceā, lineis nigris conspicuē funiculatā, anfractibus supernè declivibus, deinde plano-convexis, ultimo versus basin subangulato-inflato; aperturā parviusculā.*

THE SUMATRA PALUDINA. Shell ovately conical, rather solid, yellowish-olive, conspicuously corded with black lines, whorls sloping round the upper part, then flatly convex, last whorl rather angularly inflated towards the base; aperture rather small.

DUNKER, Zeitschr. für Malak. 1852, p. 128.

Hab. Sumatra.

The prettily-painted linear bands are smooth in the earlier whorls, and rise into relief with the growth of the shell.

Species 66. (Mus. Cuming.)

PALUDINA PUNCTURATA. *Pal. globoso-conicā, subinflatā, purpureo-olivaceā, ad suturas pallidā, anfractibus convexis, supernè subappressis, spiraliter minutissimè punctato-striatis; aperturā ovatā.*

THE PUNCTURED PALUDINA. Shell globosely conical, rather inflated, purple-olive, pale at the sutures, whorls convex, rather appressed round the upper part, spirally very minutely puncture-striated; aperture ovate.

Hab. —?

A dark purple-olive shell, smooth and shining, sculptured with rather distant spiral rows of minute punctures.



67.



68.a.



68.b.



69.



70.



71.



72.



73.



74.



75.

PALUDINA.

PLATE XI.

Fig. 67. (Mus. Cuming.)

The shell here represented is the *Paludina Boissieri*, Charpentier, inhabiting the vicinity of Naples; but according to Frauenfeld, who has lately made an especial study of this Family, it is a *Bithynia*.

Species 68. (Fig. a, b, Mus. Anthony.)

PALUDINA SCALARIS. *Pal. testá subtrigono-ovatá, albá, sinistrali, spirá latè planatá, interdum concavo-immersá, anfractibus longitudinaliter striatis, supernè acutè angulatis, deinde convexis; aperturá oblongá, amplá.*

THE WINDING-STAIR PALUDINA. Shell somewhat triangularly ovate, white, sinistral, spire broadly flattened, sometimes concavely immersed, whorls longitudinally striated, sharply angled round the upper part, then convex; aperture oblong, large.

JAY, Catalogue, pl. 1. f. 8, 9.

Hab. Near Tampa Bay, Florida.

A curious sinistrally coiled shell, with the spire broadly flattened or concavely immersed.

Species 69. (Mus. Anthony.)

PALUDINA REGULARIS. *Pal. testá globoso-ovatá, crassiusculá, nigricante-olivaceá, versus apicem plus minus erosá, spirá brevi, subacutá, anfractibus convexis, lævibus; aperturá pyriformi-oblongá, subamplá.*

THE REGULAR PALUDINA. Shell globosely ovate, rather thick, blackish-olive, more or less eroded towards the apex, spire short, rather sharp, whorls convex, smooth; aperture pyriformly oblong, rather large.

LEA, Trans. Amer. Phil. Soc., vol. ix. p. 13.

Vivipara regularis, Binney.

Hab. Illinois and Ohio, United States.

Of a much shorter obovate growth, with a smaller spire than any other United States species.

Species 70. (Mus. Cuming.)

PALUDINA VIRESCENS. *Pal. testá ovato-conicá, subinflátá, pellucido-virescente, obscurè fasciatá, versus apicem rubidá, anfractibus convexis, lævibus, minutè grano-striatis, striis subdistantibus, anfractu ultimo infernè exiliter angulato; aperturá ovatá.*

THE GREENISH PALUDINA. Shell ovately conical, rather inflated, light transparent green, obscurely banded, ruddy towards the apex, whorls convex, smooth, minutely grain-striated, striæ rather distant, last whorl delicately angled at the lower part; aperture ovate.

Hab. Macassar.

A delicately-tinted faintly banded shell of the variable *P. Javanica* type.

Species 71. (Mus. Cuming.)

PALUDINA AUSTRALIS. *Pal. testá ovato-conicá, subglobosá, fusco-olivaceá, lineis fuscescentibus subdistantibus pallidè cinctá, anfractibus supernè subappressis, deinde rotundatis, undique minutissimè striatis; aperturá rotundato-ovatá.*

THE SOUTHERN PALUDINA. Shell ovately conical, rather globose, fuscous-olive, faintly encircled with rather distant brownish lines, whorls slightly appressed round the upper part, then rounded, everywhere very minutely striated; aperture rotundately ovate.

Hab. Victoria River, North Australia; Dring.

A faintly lineated shell, of peculiar fuscous-olive colour.

Species 72. (Mus. Cuming.)

PALUDINA MAHEYANA. *Pal. testá ovato-conicá, subobliquá, pallidè virescente-olivaceá, rufescente interdum fasciatá, anfractibus supernè declivi-convexis, ad suturas constrictis, longitudinaliter plicato-striatis, interdum conspicuè malleatis; aperturá ovatá.*

THE MAHEY PALUDIN. Shell ovately conical, rather oblique, pale greenish-olive, sometimes banded with red, whorls slopingly convex round the upper part, constricted at the sutures, longitudinally plicately striated, sometimes conspicuously malleated; aperture ovate.

GRATELOUP, MS. in Mus. Cuming.

Hab. Madagascar?

Of a peculiar pale sickly-green colour, sometimes banded with red after the manner of *P. vivipara*.

Species 73. (Mus. Cuming.)

PALUDINA POLITA. *Pal. testá obtusè ovatá, subobliquá,*

solidā, pallidè olivaceo-cinereā, anfractibus rotundatis, lœvibus, politis; aperturā parvā, rotundato-ovatā.

THE POLISHED PALUDINA. Shell obtusely ovate, rather oblique, solid, pale olive-ash, whorls rounded, smooth, polished; aperture small, rotundately ovate.

Vivipara polita, Frauenfeld, Gattung *Vivipara*, Nov. 1862.
Hab. South Africa?

The shell here figured is larger and more sharply conical than the true *P. polita*, of which a type specimen has been received from M. Frauenfeld.

Species 74. (Mus. Cuming.)

This appears to be a variety from Nicobar of the *Macassar P. virescens*, Sp. 70.

Species 75. (Mus. Anthony.)

PALUDINA DECAPITATA. *Pal. testā ovato-globosā, pallidè cinereo-virente, spirā erosā, anfractibus plano-convexis; aperturā pyriformi-ovatā.*

THE DECAPITATED PALUDINA. Shell ovately globose, pale ash-green, spire eroded, whorls flatly convex; aperture pyriformly ovate.

ANTHONY, Pro. Acad. Nat. Sci. Phil. 1860, p. 71.

Hab. Tennessee, United States.

I give Mr. Anthony's original type of this species, kindly forwarded to me for examination, doubting, however, equally with Mr. Binney whether this and *P. regularis* are anything more than varieties of *P. decisa*.

CYCLOTUS.

MONOGRAPH

OF THE GENUS

CYCLOTUS.

"If thou art worn and hard beset
With sorrows that thou wouldst forget,
If thou wouldst read a lesson that will keep
Thy heart from fainting and thy soul from sleep,
Go to the woods and hills! No tears
Dim the sweet look that nature wears."—*Longfellow.*

MONOGRAPH

OF THE

CYCLOPS

It is a book of facts and figures
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CYCLOTUS.

	Plate.	Species.		Plate.	Species.
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1.a.



2.a.



2.b.



3.a.



4.a.



4.b.



3.b.



5.a.



5.b.



1.b.

CYCLOTUS.

PLATE I.

Genus CYCLOTUS, *Guilding*.

Testa plus minus depressè turbinata vel discoidea, sæpissimè latè umbilicata, anfractibus subangustis, aperturâ parviusculâ, marginibus continuis vel callo sinuato junctis. Operculum orbiculare, testaceum, arctispirum, extus concaviusculum, anfractuum margine in laminam incurvam interdum elevato.

Shell more or less depressly turbinated, or discoid, mostly broadly umbilicated, whorls rather narrow, aperture rather small, margins continuous, or joined by a sinuated callosity. Operculum orbicular, testaceous, closely spired, rather concave outwardly, edge of the whorls sometimes raised into an incurved lamina.

In this division of the Lamarckian genus *Cyclostoma* there are two well-marked groups, each numbering about a dozen species. The species of the first of these, the largest and most conspicuously coloured, are natives of the woods of New Granada, West Columbia, Bolivia and Brazil. The shell is elegantly convoluted in a very discoid manner, largely openly umbilicated, and enveloped with a very characteristic epidermis of a rich burnt-brown, banded with olive-green colour. The species of the second group are natives of Jamaica, of rather smaller size and stouter growth, chiefly of a rose-brown hue, more or less plicately wrinkled. Half-a-dozen species from India and China, and the same number from the Philippine Islands, together with four from New Guinea, two from Bombay, and one from the Lao Mountains, have been referred to *Cyclotus*, but they are much smaller than the *Cycloti* of the Western Hemisphere, and of quite a different typical character. We have a small species of *Cyclotus* from Mauritius, and one also from Natal.

Species 1. (Fig. a, b, Mus. Cuming.)

CYCLOTUS GRANULATUS. *Cycl. testâ modicè umbilicatâ, depressè orbiculari, fulvâ, roseo-brunneo spiraliter latifasciatâ, anfractibus subangustis, supernè depressis, undique corrugato-granatis.*

THE GRANULATED CYCLOTUS. Shell moderately umbilicated, depressly orbicular, fulvous, spirally broadly banded with rose-brown, whorls rather narrow, depressed at the upper part, everywhere wrinkle-grained.

CHITTY, MS. in Mus. Cuming.

Hab. Jamaica.

The last whorl of this species is not excavately angled and ridged around the umbilicus as in its nearest ally *C. Jamaicensis*.

Species 2. (Fig. a, b, Mus. Cuming.)

CYCLOTUS SEMINUDUS. *Cycl. testâ angulatim excavato-umbilicatâ, subdepressâ, fulvâ, roseo-brunneo spiraliter latifasciatâ, anfractibus undique rugatis, rugis partim obsoletis.*

THE SEMINUDE CYCLOTUS. Shell angularly excavately umbilicated, slightly depressed, fulvous, encircled with a broad rose-brown band, whorls everywhere wrinkled, wrinkles partially obsolete.

Cyclostoma seminudum, C. B. Adams, Contr. Conch. No. viii. p. 143.

Cyclotus Jamaicensis, var., Pfeiffer.

Hab. Jamaica.

Dr. Pfeiffer formerly considered this a distinct species from *C. Jamaicensis*.

Species 3. (Mus. Cuming.)

CYCLOTUS GIGANTEUS. *Cycl. testâ ampliter apertè umbilicatâ, depressâ, solidiusculâ, ustulato-fusco olivaceo-viridi latè fasciatâ et tinctâ, ad peripheriam fasciâ angustâ fulvâ cingulatâ, anfractibus angustis, ad suturas plano-impressis, supra concentricè filo-striatis, infra corrugato-striatis.*

THE GIGANTIC CYCLOTUS. Shell largely openly umbilicated, depressed, rather solid, burnt-brown, broadly banded and stained with olive-green, encircled with a narrow fulvous band at the periphery, whorls narrow, flatly impressed at the sutures, concentrically thread-striated above, wrinkle-striated below.

Cyclostoma giganteum, Sowerby, Pro. Zool. Soc. 1843, p. 30.

Cyclotus giganteus, Gray.

Hab. Panama (in the neighbouring woods).

This fine species should be regarded as the type of the genus.

Species 4. (Fig. a, b, Mus. Cuming.)

CYCLOTUS LAXATUS. *Cycl. testā latissimè apertè umbilicatā, subdiscoideā, intensè olivaceo-viridi, versus apicem ustulato-fuscescente, ad peripheriam angustè fasciatā, anfractibus perangustis, supernè densè reticulato-rugatis et malleatis, infra concentricè corrugato-striatis.*

THE LOOSELY-COILED CYCLOTUS. Shell very broadly openly umbilicated, nearly discoid, dark olive-green, burnt-brown towards the apex, narrowly banded at the periphery, whorls very narrow, densely reticulately wrinkled and malleated at the upper part, concentrically wrinkle-striated below.

Cyclostoma laxatum, Sowerby, Thes. Conch. Supp. p. 159. pl. 31 A. f. 302.

Cyclotus laxatus, Sowerby.

Hab. Columbia.

Characterized by an unusually discoid growth, and an exquisitely reticulated and malleated sculpture.

Species 5. (Mus. Cuming.)

CYCLOTUS JAMAICENSIS. *Cycl. testā angulatim excavato-umbilicatā, subdepressā, fulvā, roseo-brunneo linearè multifasciatā, anfractibus declivi-convexis, densè obliquè striatis, ad suturas plicato-malleatis.*

THE JAMAICA CYCLOTUS. Shell angularly excavately umbilicated, slightly depressed, fulvous, linearly many-banded with rose-brown, whorls slopingly convex, densely obliquely striated, plicately malleated at the sutures.

Turbo Jamaicensis, Chemnitz, vol. ii. p. 277. pl. 209. f. 2057.

Cyclostoma Jamaicense, Gray.

Cyclotus lineatus, Gray.

Hab. Jamaica.

An extremely variable species, sometimes smooth, often more or less wrinkled.



6.a.



7.a.



7.b.



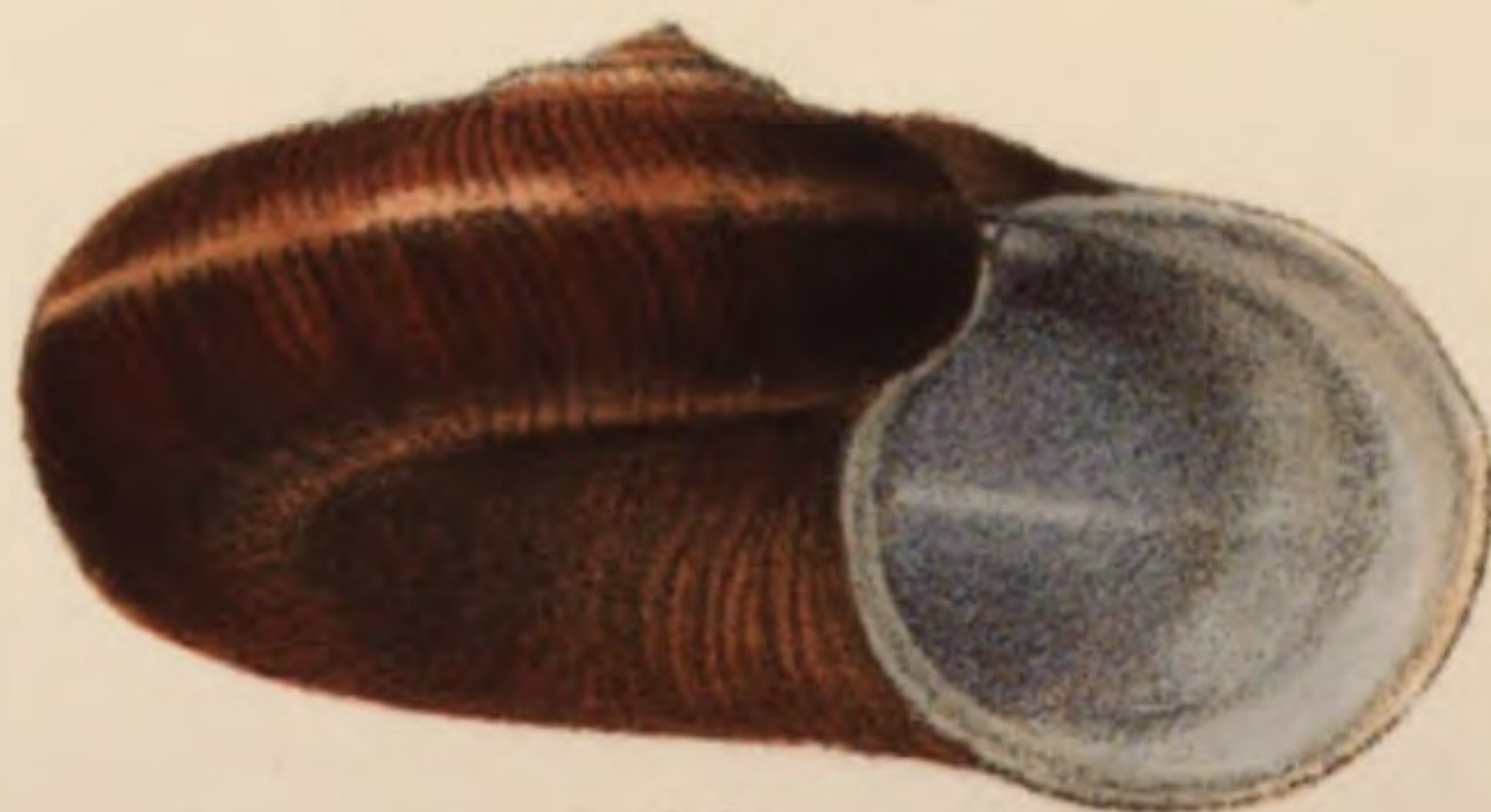
8.a.



9.a.



9.b.



8.b.



10.a.



10.b.



6.b.

CYCLOTUS.

PLATE II.

Species 6. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS JUGOSUS. *Cycl. testâ apertè umbilicatâ, depressâ, sub epidermide fulvâ albâ, anfractibus quatuor ad quinque, subangustis, concentricè filoso-liratis, ruditer nodoso-corrugatis, rugis infra obliquè continuis.*

THE RUGGED CYCLOTUS. Shell openly umbilicated, depressed, white, beneath a fulvous epidermis, whorls four to five, rather narrow, concentrically thread-ridged, rudely nodosely wrinkled, wrinkles obliquely continuous beneath.

Cyclostoma jugosum, C. B. Adams, Contr. Conch. n. 8. p. 143.

Cyclotus jugosus, Pfeiffer.

Hab. Jamaica.

A bright fulvous shell, peculiarly strongly nodosely wrinkled, the wrinkles falling at the base into oblique furrows.

Species 7. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS PALLESCENS. *Cycl. testâ angulatè excavato-umbilicatâ, subdepressâ, solidiusculâ, ustulato-fulvâ, versus apicem rosaceâ, anfractibus quinque, prope suturam planatis, ad basin angulatis, concentricè filoso-striatis, obliquè validè rudè corrugatis.*

THE PALE CYCLOTUS. Shell angularly excavately umbilicated, moderately depressed, rather solid, burnt-fulvous, tinged with rose towards the apex, whorls five, flattened next the suture, angled at the base, concentrically thread-striated, obliquely strongly rudely wrinkled.

Cyclostoma pallescens, C. B. Adams, Contr. Conch. n. 8. p. 143.

Hab. Jamaica.

Of a peculiar burnt-fulvous colour, tinged with rose at the apex. The sculpture consists mainly of coarse oblique wrinkles.

Species 8. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS INCOMPTUS. *Cycl. testâ ampliter apertè umbilicatâ, depressâ, subdiscoideâ, sub epidermide fuscâ corneâ deciduâ albâ, ad peripheriam saturatè fasciatâ, anfractibus concentricè rudè striatis, ultimo supernè ad aperturam dilatato-alato.*

THE ROUGH CYCLOTUS. Shell largely openly umbilicated, depressed, somewhat discoid, white, beneath a

deciduous brown horny epidermis, darkly banded at the periphery, whorls concentrically rudely striated, the last dilately winged at the upper part of the aperture.

Cyclostoma incomptum, Sowerby, Thes. Conch. p. 160. pl. 31. f. 298, 299.

Pterocyclos incomptus, Pfeiffer.

Cyclotus incomptus, Pfeiffer.

Hab. Brazil.

This fine species possesses a modification of the sinuated wing-like development of *Pterocyclos*.

Species 9. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS DUNKERI. *Cycl. testâ subprofundè umbilicatâ, conico-depressâ, fulvescente-fuscâ, infra peripheriam saturatè latè fasciatâ, anfractibus ad suturas concavo-impressis, striis elevatis undique densè concentricè funiculatis.*

DUNKER'S CYCLOTUS. Shell rather deeply umbilicated, conically depressed, fulvous-brown, broadly dark-banded below the periphery, whorls concavely impressed at the sutures, concentrically densely corded throughout with raised striæ.

PFEIFFER, Malak. Blatt. 1856, p. 256.

Hab. New Granada.

A beautifully-sculptured shell, of a bright fulvous-brown colour, rather broadly dark-banded below the periphery.

Species 10. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS INCA. *Cycl. testâ subprofundè umbilicatâ, subdepressâ, viridè olivaceo-virente, ad peripheriam fulvescente, deinde saturatâ, anfractibus ad suturas impresso-concavis, undique concentricè filoso-striatis.*

THE INCA CYCLOTUS. Shell rather deeply umbilicated, moderately depressed, bright olive-green, yellow at the periphery, then darker, whorls impressly concave at the sutures, concentrically thread-striated throughout.

Cyclostoma Inca, D'Orbigny, Voy. Amér. Mérid. p. 361. pl. 16. f. 21 to 23.

Cyclotus Inca, Gray.

Hab. Bolivia; La Guayra.

Chiefly recognizable by its bright olive-green banded colouring.



11.a.



12.a.



12.b.



13.a.



14.a.



14.b.



13.b.



15.a.



15.b.



11.b.

CYCLOTUS.

PLATE III.

Species 11. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS CORRUGATUS. *Cycl. testá angulatè excavato-umbilicatá, subdepressá, solidá, fulvo-fuscescente, anfractibus validissimè undulato-corrugatis, ad basin angulatis et crassè marginatis.*

THE WRINKLED CYCLOTUS. Shell angularly excavately umbilicated, slightly depressed, solid, fulvous-brown, whorls very strongly undulately wrinkled, angled and thickly margined at the base.

Cyclostoma corrugatum, Sowerby, Pro. Zool. Soc. 1843, p. 30.

Cyclotus corrugatus, Pfeiffer.

Hab. Jamaica.

The wrinkled sculpture in this species has a conspicuous waved character, varying, however, very much in strength.

Fig. 12. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS VARIANS. For description of this extremely variable species see Plate VII., where a more characteristic specimen of it is figured.

Species 13. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS CINGULATUS. *Cycl. testá modicè profundè umbilicatá, subdepressá, ustulatè olivaceo-fuscá, ad peripheriam saturatè fasciatá, anfractibus ad suturas concavo-impressis, deinde declivi-convexis, concentricè filoso-striatis, obliquè reticulato-incisis.*

THE GIRDLED CYCLOTUS. Shell moderately deeply umbilicated, rather depressed, burnt olive-brown, dark-banded at the periphery, whorls concavely impressed at the sutures, then slopingly convex, concentrically thread-striated, obliquely reticulately engraved.

Cyclostoma cingulatum, Sowerby, Thes. Conch. part ix. p. 93. pl. 29. f. 213, 214.

Cyclotus cingulatus, Gray.

Hab. New Granada.

This beautiful species is distinguished by a sloping convexity of the whorls, which are sculptured by a loose oblique network of superficially-engraved grooves.

Species 14. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS QUITENSIS. *Cycl. testá subapertè umbilicatá, modicè depressá, vividè fulvescente-castaneá, versus apicem rosaceá, ad peripheriam pallidè fasciatá, anfractibus ad suturas concavo-impressis, concentricè rudè striatis, striis subtilis validis.*

THE QUITO CYCLOTUS. Shell rather openly umbilicated, moderately depressed, bright fulvous-chestnut, rose towards the apex, faintly banded at the periphery, whorls concavely impressed at the sutures, concentrically rudely striated, striæ strong beneath.

Cyclostoma Quitense, Pfeiffer, Pro. Zool. Soc. 1851.

Cyclotus Quitensis, Pfeiffer.

Hab. Quito.

A shell of rather solid growth, pink about the apex, with the striæ much increasing in strength towards the umbilicus.

Species 15. (Fig. *a, b*, Mus. Cuming.)

CYCLOTUS CRASSUS. *Cycl. testá angulatè excavato-umbilicatá, crassá, sordidè fuscá, anfractibus declivi-convexis, supernè rudè corrugatá et malleatá.*

THE THICK CYCLOTUS. Shell angularly excavately umbilicated, thick, dull-brown, whorls slopingly convex, rudely wrinkled and malleated at the upper part.

Cyclostoma crassum, C. B. Adams, Contr. Conch. n. viii. p. 143.

Hab. Jamaica.

A small species, possessing the typical character of the wrinkled Jamaica forms obscurely developed.

CYCLOTUS.

PLATE III.

Fig. 1. New Species.

This beautiful species is distinguished by a shining
surface of the whole, which are combined in a large
oblique network of slightly-convex grooves.

Fig. 2. New Species.

This species is distinguished by a shining
surface of the whole, which are combined in a large
oblique network of slightly-convex grooves.

The surface of the whole is shining, and the
grooves are slightly-convex, and the network is
oblique.

The surface of the whole is shining, and the
grooves are slightly-convex, and the network is
oblique.

The surface of the whole is shining, and the
grooves are slightly-convex, and the network is
oblique.

Fig. 3. New Species.

This species is distinguished by a shining
surface of the whole, which are combined in a large
oblique network of slightly-convex grooves.

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Fig. 5. New Species.

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Fig. 6. New Species.

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oblique.

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grooves are slightly-convex, and the network is
oblique.



11.a.



16.



17.b.



18.a.



19.a.



19.b.



18.b.



20.a.



20.b.



21.

CYCLOTUS.

PLATE IV.

Species 16. (Mus. Cuming.)

CYCLOTUS SEMISTRIATUS. *Cycl. testâ profundè subangustè umbilicatâ, depresso-conicâ, albidâ, rufescente tinctâ, aurantio-fusco interdum vittatâ, anfractibus subangustis, supernè spiraliter liratis.*

THE HALF-STRIATED CYCLOTUS. Shell deeply rather narrowly umbilicated, depressly conical, white, tinged with red, sometimes filleted with orange-brown, whorls rather narrow, spirally ridged round the upper part.

Cyclostoma semistriatum, Sowerby, Pro. Zool. Soc. 1843, p. 29.

Cyclotus semistriatus, Gray.

Hab. India.

Of quite a different type from the Western species of the genus. The whorls have neither concentric striæ nor wrinkles, but are sculptured round the upper part with spiral ridges, while the lower part is smooth.

Species 17. (Fig. a, b, Mus. Cuming.)

CYCLOTUS FORTUNEI. *Cycl. testâ subampliter profundè umbilicatâ, fulvescente-fuscâ, sericeâ, interdum obscurè fasciatâ, anfractibus angustis, rotundatis, concentricè tenuistriatis.*

FORTUNE'S CYCLOTUS. Shell rather largely deeply umbilicated, fulvous-brown, silky, sometimes obscurely banded, whorls narrow, rounded, concentrically finely striated.

Cyclostoma Fortunei, Pfeiffer, Pro. Zool. Soc. 1852, p. 146.

Cyclotus Fortunei, Pfeiffer.

Hab. Shanghai, China; Fortune.

A small silky shell of narrow rounded whorls, with much of the aspect of a *Helix*.

Species 18. (Fig. a, b, Mus. Cuming.)

CYCLOTUS IRREGULARIS. *Cycl. testâ modicè profundè umbilicatâ, subdepressâ, crassâ, pallidè fulvescentecastaneâ, infra peripheriam saturatè fasciatâ, anfractibus ad suturas concavo-impressis, striis elevatis concentricis undique densè funiculatis.*

THE IRREGULAR CYCLOTUS. Shell moderately deeply

umbilicated, rather depressed, thick, pale fulvous-chestnut, dark-banded below the periphery, whorls concavely impressed at the sutures, densely corded throughout with raised concentric striæ.

Cyclostoma (Cyclotus) irregularis, Pfeiffer, Pro. Zool. Soc. 1855, p. 117.

Hab. Costa Rica, Central America.

Pale in colour, of rather solid growth, beautifully corded throughout with raised concentric striæ.

Species 19. (Fig. a, b, Mus. Cuming.)

CYCLOTUS VOLVULOIDES. *Cycl. testâ modicè profundè umbilicatâ, subdepressâ, albidâ, purpureo-violaceo obscurè fasciatâ, anfractibus subangustis, rotundatis, spiraliter liratis, ad peripheriam lævigatis, labro cullosoreflexo.*

THE WHORL-LIKE CYCLOTUS. Shell moderately deeply umbilicated, slightly depressed, whitish, obscurely banded with purple-violet, whorls rather narrow, rounded, spirally ridged, smooth at the periphery, lip callously reflected.

Cyclostoma volvuloides, Sowerby, Thes. Conch. p. 162. pl. 31 B. f. 313, 314.

Cyclotus volvuloides, Pfeiffer.

Hab. — ?

This is a very characteristic species of the Eastern type represented by the smaller Indian *C. semistriatus*. It has no concentric sculpture, the ridges being of spiral growth.

Species 20. (Fig. a, b, Mus. Cuming.)

CYCLOTUS BOGOTENSIS. *Cycl. testâ modicè profundè umbilicatâ, conico-depressâ, vividè virente variè fasciatâ, anfractibus ad suturam concavo-impressis, deinde rotundatis, striis concentricis undique densè funiculatis.*

THE BOGOTA CYCLOTUS. Shell moderately deeply umbilicated, conically depressed, bright green, variously banded, whorls concavely impressed at the suture, then rounded, densely corded throughout with concentric striæ.

Cyclostoma Bogotense, Pfeiffer, Pro. Zool. Soc. 1855, p. 117.

Hab. New Granada.

Scarcely distinguishable from *C. Inca*, and probably a variety of that species.

Species 21. (Mus. Cuming.)

CYCLOTUS SUBDISCOIDEUS. *Cycl. testâ latè profundè umbilicatâ, depressâ, lacteâ, aurantio-carneo lineatâ et tinctâ, anfractibus angustis, rotundatis, ad suturas excavato-impressis, deinde liris spiralibus validè funiculatis, labro calloso-reflexo.*

THE SLIGHTLY-DISCOID CYCLOTUS. Shell broadly deeply umbilicated, depressed, cream colour, lineated and tinged with orange-flesh, whorls narrow, rounded, excavately impressed at the suture, then strongly corded with spiral ridges, lip callously reflected.

Cyclostoma subdiscoideum, Sowerby, Thes. Conch. p. 161. pl. 31 B. p. 304, 305.

Hab. — ?

Another characteristic species of the spirally-ridged Eastern type.



22.



23. a.



23. b.



24. a.



25. a.



25. b.



24. b.



26. a.



26. b.



27.

CYCLOTUS.

PLATE V.

Species 22. (Mus. Cuming.)

CYCLOTUS SUBSTRIATUS. *Cycl. testâ subampliter umbilicatâ, depressâ, fulvâ, anfractibus angustis, rotundatis, ad suturas impressis et plicato-striatis.*

THE SLIGHTLY-STRIATED CYCLOTUS. Shell rather largely umbilicated, depressed, fulvous, whorls narrow, rounded, impressed and plicately striated at the sutures.

Cyclostoma substriatum, Sowerby, Pro. Zool. Soc. 1843, p. 61.

Cyclotus substriatus, Gray.

Hab. Island of Siquijor, Philippines; Cuming.

Sculptured with concentric striæ, which are more prominent and puckered next the sutures.

Species 23. (Fig. a, b, Mus. Cuming.)

CYCLOTUS DISCOIDEUS. *Cycl. testâ latissimè ampliter umbilicatâ, plano-depressâ, subdiscoideâ, pallidè fulvescente, subpellucidâ, anfractibus angustis, rotundatis, parum striatis, sericeis, labro continuo, reflexo.*

THE DISCOID CYCLOTUS. Shell very broadly largely umbilicated, flatly depressed, somewhat discoid, light fulvous, somewhat transparent, whorls narrow, rounded, but little striated, silky, lip continuous, reflected.

Cyclostoma discoideum, Sowerby, Thes. Conch. p. 111. pl. 25. f. 87, 88.

Cyclotus discoideus, Gray.

Hab. Demerara; Sowerby.

A narrow-whorled subdiscoidal shell, with a delicate silky surface.

Species 24. (Fig. a, b, Mus. Cuming.)

CYCLOTUS POPAYANUS. *Cycl. testâ modicè umbilicatâ, subdepressâ, sub epidermide fulvâ deciduâ albâ, versus apicem rosaceâ, ad peripheriam fasciatâ, anfractibus supernè concaviusculis, deinde declivi-rotundatis, concentricè densè filoso-striatis.*

THE POPAYAN CYCLOTUS. Shell moderately umbilicated, slightly depressed, white beneath a deciduous fulvous epidermis, rose towards the apex, banded at the periphery, whorls slightly concave round the upper part, then slopingly rounded, concentrically densely thread-striated.

Cyclostoma Popayanum, Lea, Obs. vol. ii. p. 94. pl. 23. f. 76.

Cyclostoma inconspicuum, Sowerby.

Cyclotus inconspicuus, Gray.

Cyclotus Popayanus, Pfeiffer.

Hab. Popayan, New Granada; Gibbon. Chimborazo; Linden.

The whorls of this species, rather slopingly inflated, are characteristically tinged with rose towards the apex.

Species 25. (Fig. a, b, Mus. Cuming.)

CYCLOTUS STRAMINEUS. *Cycl. testâ modicè profundè umbilicatâ, subdepressâ, eximie stramineâ, anfractibus declivi-rotundatis, pulcherrimè diagonaliter crispato-corrugatis.*

THE STRAW-COLOURED CYCLOTUS. Shell moderately deeply umbilicated, rather depressed, delicate straw-colour, whorls slopingly rounded, very beautifully diagonally crisply wrinkled.

Cyclostoma stramineum, Reeve, Pro. Zool. Soc. 1843, p. 46.

Cyclotus stramineus, Gray.

Hab. Merida, West Columbia.

Remarkable for the semitransparent delicacy of its colour and curious diagonally-wrinkled sculpture.

Fig. 26. (Fig. a, b, Mus. Cuming.)

This shell, which is Mr. Sowerby's *C. subrugosus*, is merely a variety of Professor C. B. Adams's *C. crassus*.

Species 27. (Mus. Cuming.)

CYCLOTUS MUCRONATUS. *Cycl. testâ subampliter apertè umbilicatâ, pallidè luteâ, rufescente tinctâ, apice submucronato, anfractibus angustis, rotundatis, ad suturas concentricè plicato-striatis, sub lente superficialiter spiraliter striatis, labro reflexo.*

THE POINTED CYCLOTUS. Shell rather largely openly umbilicated, pale yellow, tinged with red, apex rather pointed, whorls narrow, rounded, plicately concentrically striated at the sutures, faintly spirally striated beneath the lens, lip reflected.

Cyclostoma mucronatum, Sowerby, Pro. Zool. Soc. 1843, p. 63.

Cyclotus mucronatus, Gray.

Hab. Island of Luzon, Philippines; Cuming.

Puckered with concentric striæ next the suture, while the general surface of the whorls is faintly spirally striated.

Species 22. (New Guinea.)

Cyclopus neogaeus. (Pl. 22, fig. 1.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Pl. 22, fig. 2.
Cyclopus neogaeus. (Pl. 22, fig. 2.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Species 23. (New Guinea.)
Cyclopus neogaeus. (Pl. 23, fig. 1.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Pl. 23, fig. 2.
Cyclopus neogaeus. (Pl. 23, fig. 2.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Species 24. (New Guinea.)
Cyclopus neogaeus. (Pl. 24, fig. 1.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Pl. 24, fig. 2.
Cyclopus neogaeus. (Pl. 24, fig. 2.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Cyclopus neogaeus. (Pl. 22, fig. 1.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Pl. 22, fig. 2.
Cyclopus neogaeus. (Pl. 22, fig. 2.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Species 23. (New Guinea.)
Cyclopus neogaeus. (Pl. 23, fig. 1.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Pl. 23, fig. 2.
Cyclopus neogaeus. (Pl. 23, fig. 2.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Species 24. (New Guinea.)
Cyclopus neogaeus. (Pl. 24, fig. 1.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.

Pl. 24, fig. 2.
Cyclopus neogaeus. (Pl. 24, fig. 2.)
Length 1.5 mm. Head rounded, with
small, dark, eyes. Antennae
not reaching beyond the
The antennae are 1.5 mm. long.
The antennae are 1.5 mm. long.



28.



29.a.



29.b.



30.a.



31.a.



31.b.



30.b.



32.a.



32.b.



33.

CYCLOTUS.

PLATE VI.

Species 28. (Mus. Cuming.)

CYCLOTUS PROMINULUS. *Cycl. testâ ampliter apertè umbilicatâ, subdepressâ, albidâ, anfractibus angustis, densè concentricè filoso-striatis, subtubulosis, ultimo plus minus soluto.*

THE PRODUCED CYCLOTUS. Shell largely openly umbilicated, rather depressed, whitish, whorls narrow, densely concentrically thread-striated, subtubular, the last more or less unrolled.

Cyclostoma prominulum, Férussac; D'Orbigny, Voy. Amér. Mérid. p. 362.

Cyclostoma Brasiliense, Sowerby.

Cyclotus Brasiliensis, Sowerby.

Cyclotus prominulus, Pfeiffer.

Hab. Rio Janeiro, Minas Geraes; Brazil.

A delicate subtubular shell, in which the last whorl is partially uncoiled.

Species 29. (Fig. a, b, Mus. Cuming.)

CYCLOTUS VARIEGATUS. *Cycl. testâ latissimè apertè umbilicatâ, plano-discoideâ, fulvescente, castaneo-brunneo reticulato-pictâ, anfractibus angustis, rotundatis, concentricè densè filoso-striatis, labro reflexo, supernè subalato.*

THE VARIEGATED CYCLOTUS. Shell very broadly openly umbilicated, flatly discoid, fulvous, reticulately painted with chestnut-brown, whorls narrow, rounded, concentrically densely thread-striated, lip reflected, slightly winged at the upper part.

SWAINSON, Treat. Malacol. p. 336.

Cyclostoma planorbium, Sowerby (not of Lamarck).

Cyclostoma cornu-venatorium, Petit.

Hab. Philippine Islands; Cuming.

This species partakes of the characters of *Cyclophorus* and even of *Pterocyclos*.

Species 30. (Fig. a, b, Mus. Cuming.)

CYCLOTUS TRANSLUCIDUS. *Cycl. testâ angustè umbilicatâ, subconoideâ, pallidè luteâ, fulvo interdum multifasciatâ, anfractibus declivi-rotundatis, densè concentricè rugoso-striatis.*

THE TRANSPARENT CYCLOTUS. Shell narrowly umbili-

cated, somewhat conoid, light yellow, sometimes many-banded with fulvous, whorls slopingly rounded, densely concentrically wrinkle-striated.

Cyclostoma translucidum, Sowerby, Pro. Zool. Soc. 1843, p. 29.

Cyclotus translucidus, Gray.

Hab. Columbia.

A pale-yellow semitransparent shell, sometimes many-banded with fulvous, in which the whorls are more closely convoluted than usual, and the shell is accordingly more narrowly umbilicated.

Species 31. (Fig. a, b, Mus. Cuming.)

CYCLOTUS DYSONI. *Cycl. testâ profundè modicè umbilicatâ, depresso-conoideâ, luteâ, fulvo strigatâ et fasciatâ, anfractibus prope suturas subplanatis, deinde declivi-rotundatis, undique striis elevatis concentricis decussatim undato-corrugatis.*

DYSON'S CYCLOTUS. Shell deeply moderately umbilicated, depressly conoid, yellow, streaked and banded with fulvous, whorls rather flat next the sutures, then slopingly rounded, everywhere decussately wave-wrinkled with concentric raised striæ.

Cyclostoma Dysoni, Pfeiffer, Pro. Zool. Soc. 1851, p. 243.

Cyclophorus? Dysoni, Pfeiffer.

Cyclotus Dysoni, Pfeiffer.

Hab. Honduras; Dyson.

The concentric thread-like striæ are strongly wrinkled in this species and incline to cross one another.

Species 32. (Fig. a, b, Mus. Cuming.)

CYCLOTUS HEBRAICUS. *Cycl. testâ modicè profundè umbilicatâ, depressâ, albidâ, castaneo-brunneo fasciatâ et plus minus variegatâ, anfractibus subangustis, rotundatis, lævigatis, vel minutissimè concentricè striatis, labro tenuè dilatato.*

THE HEBREW CYCLOTUS. Shell moderately deeply umbilicated, depressed, whitish, banded and more or less variegated with chestnut-brown, whorls rather narrow, rounded, smooth, or very minutely concentrically striated, lip thinly dilated.

Valvata Hebraicus, Lesson, Voy. de la Coquille, p. 347. pl. 13. f. 8.

Cyclostoma papua, Quoy.

Cyclostoma distomella, Sowerby.

Cyclotus Hebraicus, Pfeiffer.

Hab. New Guinea.

As in the case of *C. variegatus*, this species partakes very much of the generic character of *Cyclophorus*.

Species 33. (Mus. Cuming.)

CYCLOTUS ASPERULUS. *Cycl. testā modicè profundè umbilicatā, depressā, fulvo-fuscescente, anfractibus supernè subconcavis, deinde declivi-rotundatis, concentricè plicato-striatis et obscurè retusè corrugatis.*

THE ROUGH CYCLOTUS. Shell moderately deeply umbilicated, depressed, fulvous-brown, whorls slightly concave round the upper part, then slopingly rounded, concentrically plicately striated and obscurely bluntly wrinkled.

Cyclostoma rugulosum, Sowerby (not of Pfeiffer), Pro. Zool. Soc. 1843, p. 29.

Cyclostoma asperulum, Sowerby.

Cyclotus asperulus, Gray.

Hab. Jamaica.

The wrinkling of this species is blunt and obscure, the interstices having the appearance of punctures.



34



35a.



35b.



36a.



37a.



37b.



38b.



38a.



38b.



39

CYCLOTUS.

PLATE VII.

Species 34. (Mus. Cuming.)

CYCLOTUS DISTINCTUS. *Cycl. testā latè apertè umbilicatā, discoideā, sub epidermide olivaceo-luteā albidā, anfractibus angustis, tubulosis, spiraliter tenuiliratis, liris regularibus, alternis interdum minoribus.*

THE DISTINCT CYCLOTUS. Shell broadly openly umbilicated, discoid, whitish, beneath an olive-yellow epidermis, whorls narrow, tubular, spirally finely ridged, ridges regular, the alternate ones sometimes smaller.

Cyclostoma distinctum, Sowerby, Thes. Conch. p. 106. pl. 24. f. 38.

Cyclotus distinctus, Pfeiffer.

Hab. West Columbia; Cuming. Haiti; Sallé.

A bright *Planorbis*-like species, regularly spirally ridged throughout.

Species 35. (Fig. a, b, Mus. Cuming.)

CYCLOTUS GLAUCOSTOMA. *Cycl. testā modicè subprofundè umbilicatā, depresso-conoideā, ustulato-fuscā, subtus fulvescente, anfractibus declivi-rotundatis, spiraliter decussatim corrugatis.*

THE BLUE-MOUTH CYCLOTUS. Shell moderately rather deeply umbilicated, depressly conoid, burnt-brown, fulvous beneath, whorls slopingly rounded, spirally decussately wrinkled.

Cyclostoma (Cyclotus) glaucostoma, Pfeiffer, Pro. Zool. Soc. 1855, p. 103.

Hab. Venezuela.

The wrinkled sculpture of this shell runs in the spiral direction in a decussating manner, of quite a different type from the concentric wrinkling of the Jamaica species.

Species 36. (Fig. a, b, Mus. Cuming.)

CYCLOTUS VARIANS. *Cycl. testā angulatè excavato-umbilicatā, crassā, ustulato-fuscā, rufo tinctā, anfractibus declivi-rotundatis, supernè plicato-rugosis et malleatis, obsoletè spiraliter liratis, aperturæ fauce rufā.*

THE VARYING CYCLOTUS. Shell angularly excavately umbilicated, thick, burnt-brown, tinged with red, whorls slopingly rounded, plicately rugose and malleated round the upper part, obsoletely spirally ridged, interior of the aperture red.

Cyclostoma varians, Contr. Conch. no. 8. p. 143.

Cyclotus varians, Pfeiffer.

Hab. Jamaica.

A shell of stout growth, rudely plicated and malleated next the sutures, with faint indications of spiral ridges beneath.

Species 37. (Fig. a, b, Mus. Cuming.)

CYCLOTUS BLANCHETIANUS. *Cycl. testā ampliter apertè umbilicatā, depressā, subdiscoideā, ustulato-fulvā, ad peripheriam pallidā, deinde castaneo latifasciatā, anfractibus ad suturas concavo-impressis, undique dense concentricè filoso-striatis.*

BLANCHET'S CYCLOTUS. Shell largely very openly umbilicated, depressed, somewhat discoid, burnt-fulvous, pale, and then broadly chestnut-banded at the periphery, whorls concavely impressed at the sutures, densely concentrically thread-striated throughout.

Cyclostoma Blanchetianum, Moricand, Mém. Soc. Phys. Genève, vol. vii. p. 442. pl. 2. f. 21 to 23.

Cyclotus Inca, var., Pfeiffer.

Hab. Brazil.

This differs from the typical form of *C. Inca* in being more thinly flatly coiled, while it is uniformly of a different colour.

Species 38. (Fig. a, b, Mus. Cuming.)

CYCLOTUS SPURCUS. *Cycl. testā subangustè umbilicatā, subgloboso-conoideā, sordidè fulvescente-albā, anfractibus subcontractis, declivi-rotundatis, plus minus obscure concentricè filoso-striatis.*

THE DIRTY CYCLOTUS. Shell rather narrowly umbilicated, subglobosely conoid, dull fulvous-white, whorls rather contracted, slopingly rounded, more or less obscurely concentrically thread-striated.

Cyclostoma spurcum, Grateloup, Act. Soc. Linn. Bordeaux, vol. ii. p. 444. pl. 3. f. 18.

Otopoma spurcum, Gray.

Cyclotus spurcus, Pfeiffer.

Hab. Malabar, Bombay.

This is the first Indian *Cyclotus* that has come before me in which the characters partake of those of the Western

species. It comes very near to the Columbian *C. translucidus* of the preceding plate.

Species 39. (Mus. Cuming.)

CYCLOTUS PUSILLUS. *Cycl. testâ latissimè apertè umbilicatâ, subdiscoideâ, pallidè fulvescente-fuscâ, anfractibus subangustis, prope suturas impressis et tenuè plicatis, deinde rotundatis, lævibus, labro expanso-reflexo.*
THE SMALL CYCLOTUS. Shell very broadly openly um-

bilicated, somewhat discoid, pale fulvous-brown, whorls rather narrow, impressed and faintly plicated next the sutures, then rounded, smooth, lip expandedly reflected.

Cyclostoma pusillum, Sowerby, Pro. Zool. Soc. 1843, p. 59.

Cyclotus pusillus, Gray.

Hab. Philippine Islands; Cuming.

Belonging to the *Cyclophorus* form of the genus, widely openly convoluted.



40.



41.



42.



43.



44.



45.



46.



47.



48.



49.

(Moderately enlarged.)

CYCLOTUS.

PLATE VIII.

Species 40. (Mus. Cuming.)

CYCLOTUS SUTURALIS. *Cycl. testá perampliter discoideá, lutescente-fuscá, anfractibus lævigatis, angustis, ad suturam conspicuè lirato-marginatis.*

THE SUTURAL CYCLOTUS. Shell very largely umbilicated, discoid, yellowish-brown, whorls smooth, narrow, conspicuously ridge-margined at the suture.

Cyclostoma suturale, Sowerby, Pro. Zool. Soc. 1843, p. 29.

Aperostoma suturale, Pfeiffer.

Cyclotus suturalis, Gray.

Hab. Jamaica, Demerara.

Characterized by a distinct marginal ridge next the suture.

Species 41. (Mus. Cuming.)

CYCLOTUS DUBIOSUS. *Cycl. testá subampliter umbilicatá, helicoideá, sordidè albá, epidermide tenui deciduá indutá, anfractibus subangustis, undique transversim filo-striatis.*

THE DOUBTFUL CYCLOTUS. Shell rather largely umbilicated, helicoid, dull white, covered with a thin deciduous epidermis, whorls rather narrow, transversely thread-striated throughout.

Cyclostoma dubiosum, C. B. Adams, Contr. to Conch. no. ix. p. 157.

Cyclotus dubiosus, Pfeiffer.

Hab. Jamaica.

Closely sculptured throughout with thread-like striæ.

Species 42. (Mus. Cuming.)

CYCLOTUS ORBELLUS. *Cycl. testá subampliter umbilicatá, subdiscoideá, aurantio-fulvá, diaphaná, anfractibus angustis, ad suturam canaliculato-impressis, spiraliter filo-liratis, liris distantibus.*

THE LITTLE ORB CYCLOTUS. Shell rather largely umbilicated, somewhat discoid, orange-fulvous, diaphanous, whorls narrow, canaliculately impressed at the suture, spirally thread-ridged, ridges distant.

Cyclostoma orbella, Lamarck, Anim. sans vert. vol. viii. p. 360.

Cyclostoma variabile, Férussac.

Cyclostoma Lamarckii, Petit.

Cyclotus orbellus, Gray.

Hab. Madagascar, Guadeloupe?

A delicate spirally corded semi-transparent shell, partaking somewhat of the generic character of *Cyclophorus*.

Species 43. (Mus. Cuming.)

CYCLOTUS SUBFLAMMULATUS. *Cycl. testá modicè umbilicatá, fulvescente-corneá, fusco pallidè flammátá, anfractibus declivi-convexis, lævibus, aperturá tumidiusculá, labro tenuè reflexo.*

THE FAINTLY-FLAMED CYCLOTUS. Shell moderately umbilicated, fulvous horny, faintly flamed with brown, whorls slopingly convex, smooth, aperture rather swollen, lip thinly reflected.

PFEIFFER, MS. in Mus. Cuming.

Hab. — ?

A semi-transparent shell with a faint indication of radiating flames.

Species 44. (Mus. Cuming.)

CYCLOTUS PATERA. *Cycl. testá ampliter umbilicatá, discoideá, livido-corneá, epidermide intensè fuscá biseriatim cristatá indutá, anfractibus angustis, spiraliter lirato-striatis.*

THE GOBLET CYCLOTUS. Shell largely umbilicated, discoid, livid-horny, covered with a dark-brown biseriately tufted epidermis, whorls narrow, spirally ridge-striated.

PFEIFFER, MS. in Mus. Cuming.

Hab. Lao Mountains; Mouhot.

The chief peculiarity of this species consists in its double-tufted epidermis.

Species 45. (Mus. Cuming.)

CYCLOTUS LINDSTEDTI. *Cycl. testá subampliter umbilicatá, lutescente, castaneo-fusco profusè acutè undulatá, anfractibus rotundatis, transversim filo-striatis.*

LINDSTEDT'S CYCLOTUS. Shell rather largely umbilicated, yellowish, profusely sharply waved with chestnut-brown, whorls rounded, transversely thread-striated. *Cyclostoma (Cyclotus) Lindstedti*, Pfeiffer, Pro. Zool. Soc. 1856, p. 391.

Cyclotus Lindstedti, Pfeiffer.

Hab. Mount Ophir, Malacca; Lindstedt.

Beautifully painted with sharply zigzag lines and flames.

Species 46. (Mus. Cuming.)

CYCLOTUS BATCHIANENSIS. *Cycl. testâ ampliter apertè umbilicatâ, lutescente-corneâ, ustulato-castaneo copiosè tinctâ et flammâtâ, anfractibus exiliter spiraliter lirato-striatis, ad suturam subimpressis.*

THE BATCHIAN CYCLOTUS. Shell largely openly umbilicated, yellowish-horny, copiously stained and flamed with burnt-chestnut, whorls faintly spirally ridge-striated, rather impressed at the suture.

PFEIFFER, MS. in Mus. Cuming.

Hab. Island of Batchian, Indian Ocean.

This shell has very much the character of a *Cyclophorus*.

Species 47. (Mus. Cuming.)

CYCLOTUS ILLOTUS. *Cycl. testâ apertè umbilicatâ, versus aperturam laxè convolutâ, solidiusculâ, sordidè albâ, spirâ subimmersâ, anfractibus transversim corrugato-striatis.*

THE DIRTY CYCLOTUS. Shell openly umbilicated, loosely coiled towards the aperture, rather solid, dull white, spire rather immersed, whorls transversely wrinkle-striated.

GOULD, Otia Conch. p. 104.

Hab. Loo Choo.

A rather loosely coiled shell, striated across in a rough obtusely wrinkled manner.

Species 48. (Mus. Cuming.)

CYCLOTUS FLOCCOSUS. *Cycl. testâ excavatè perspectivè umbilicatâ, subdiscoideâ, pellucido-stramineâ, anfractibus ad suturas lirato-marginatis, undique spiraliter filo-liratis, liris granatis.*

THE FLAKED CYCLOTUS. Shell excavately perspective umbilicated, slightly discoid, transparent straw-colour, whorls ridge-margined at the sutures, spirally thread-ridged throughout, ridges grained.

Cyclostoma (Cyclotus) floccosus, Shuttleworth, Journ. Conch. vol. iii. p. 268.

Cyclotus distinctus, pars, Pfeiffer.

Cyclotus floccosus, Pfeiffer.

Hab. Island of Haiti; Sallé.

The operculum of this beautiful little species is circularly ridged, the ridges being furnished with curious flakes of epidermis.

Species 49. (Mus. Cuming.)

CYCLOTUS DAUCINUS. *Cycl. testâ profundè excavato-umbilicatâ, pellucidè æneo-rufâ, anfractibus decliviconvexis, spiraliter lirato-striatis, ad peripheriam carinatis, versus aperturam transversim plicato-rugatis.*

THE CARROT-COLOURED CYCLOTUS. Shell deeply excavately umbilicated, transparent bronze-red, whorls slopingly convex, spirally ridge-striated, keeled at the periphery, transversely plicately wrinkled towards the aperture.

Cyclostoma (Cyclotus) daucinum, Pfeiffer, Pro. Zool. Soc. 1856, p. 337.

Hab. Salomon's Island.

Another beautiful little species, of a bright transparent bronze-red colour.



50.



51.



52.



53.



54.



55.



56.



57.



58.



59.

CYCLOTUS.

PLATE IX.

Species 50. (Mus. Cuming.)

CYCLOTUS FILOCINCTUS. *Cycl. testâ profundè excavato-umbilicatâ, pellucido-albâ, epidermide corneâ deciduâ indutâ, anfractibus rotundatis, undique spiraliter filo-striatis.*

THE THREAD-GIRT CYCLOTUS. Shell deeply excavately umbilicated, transparent-white, covered with a deciduous horny epidermis, whorls rounded, spirally thread-striated throughout.

Cyclostoma filocinctum, Benson, Ann. Nat. Hist. Second Series, vol. viii. p. 188.

Cyclotus filocinctus, Benson.

Hab. Neilgherry Hills, India.

This delicate little *Cyclotus* is of a raised obtusely-conical form.

Species 51. (Mus. Cuming.)

CYCLOTUS SCALARIS. *Cycl. testâ angustè profundè umbilicatâ, acutè elevato-convolutâ, fulvescente-corneâ, anfractibus rotundatis, lævigatis, labro subreflexo.*

THE LADDER-LIKE CYCLOTUS. Shell narrowly deeply umbilicated, sharply elevately coiled, fulvous horny, whorls rounded, smooth, lip slightly reflected.

Cyclostoma scalare, Pfeiffer, Pro. Zool. Soc. 1851, p. 250.

Cyclotus scalaris, Pfeiffer.

Hab. Philippine Islands; Cuming.

The spire is in this species rather sharply, and somewhat loosely, elevated.

Species 52. (Mus. Cuming.)

CYCLOTUS SORDIDUS. *Cycl. testâ subangustè profundè umbilicatâ, sordidè albâ, epidermide tenui corneâ deciduâ indutâ, spirâ elevatiusculâ, anfractibus spiraliter filo-striatis.*

THE DULL CYCLOTUS. Shell rather narrowly deeply umbilicated, dull-white, covered with a thin deciduous horny epidermis, spire slightly raised, whorls spirally thread-striated.

Cyclostoma (Cyclotus) sordidus, Pfeiffer, Pro. Zool. Soc. 1855, p. 103.

Cyclotus sordidus, Pfeiffer.

Hab. China.

Closely sculptured throughout in the spiral direction, with very fine striæ.

Species 53. (Mus. Cuming.)

CYCLOTUS RECLUZIANUS. *Cycl. testâ modicè umbilicatâ, tenui, fulvescente-fuscâ, anfractibus declivi-convexis, spiraliter filo-striatis, ad peripheriam carinatis, ad suturam exiliter plicato-rugatis.*

RECLUZ' CYCLOTUS. Shell moderately umbilicated, thin, fulvous-brown, whorls slopingly convex, spirally thread-striated, keeled at the periphery, faintly plicately wrinkled at the suture.

Cyclostoma (Cyclotus) Recluzianum, Pfeiffer, Pro. Zool. Soc. 1853, p. 51.

Cyclotus Recluzianus, Pfeiffer.

Hab. Salomon's Island.

A thin shell, plicately wrinkled next the suture, across the spiral striæ.

Species 54. (Mus. Cuming.)

CYCLOTUS NATALENSIS. *Cycl. testâ angustè umbilicatâ, cornico-turbinatâ, fuscescente, fuscescente undique pallidè lineari-undulatâ, castaneo infra peripheriam conspicuè fasciatâ, anfractibus lævibus.*

THE NATAL CYCLOTUS. Shell narrowly umbilicated, conically turbinated, fulvous, faintly linearly waved with brown throughout, conspicuously banded with chestnut below the periphery, whorls smooth.

PFEIFFER, MS. in Mus. Cuming.

Hab. Natal.

In form and colouring this shell partakes of the character of the prevailing Madagascar type of *Cyclostoma*.

Species 55. (Mus. Cuming.)

CYCLOTUS PLEBEJUS. *Cycl. testâ angustè umbilicatâ, acutè depressè turbinatâ, opaco-albâ, sordidè livido tinctâ, anfractibus rotundatis, obsoletè transversim rugatâ.*

THE POOR CYCLOTUS. Shell narrowly umbilicated, sharply depressly turbinated, opaque-white, stained with dull

livid-colour, whorls rounded, obsoletely transversely wrinkled.

Cyclostoma plebejum, Sowerby, Pro. Zool. Soc. 1843, p. 60.

Aperostoma plebejum, Pfeiffer.

Cyclotus plebejus, Gray.

Hab. Island of Luzon, Philippines; Cuming.

A dull opaque-white shell, stained with livid-colour, showing traces on its surface of obtuse transverse wrinkles.

Species 56. (Mus. Cuming.)

CYCLOTUS TRAILLI. *Cycl. testâ modicè profundè umbilicatâ, depressè orbiculari, pallidè spadiceâ, purpurascence-castaneo tinctâ et fasciatâ, anfractibus ad suturam impressis, undique spiraliter tenuè filo-liratis.*

TRAILL'S CYCLOTUS. Shell moderately deeply umbilicated, depressly orbicular, light fawn-colour, tinged and banded with purple-chestnut, whorls impressed at the suture, spirally finely thread-ridged throughout.

PFEIFFER, MS. in Mus. Cuming.

Hab. — ?

A characteristic species, but it comes rather near to *C. subdiscoideus*.

Species 57. (Mus. Cuming.)

CYCLOTUS MACGILLIVRAYI. *Cycl. testâ profundè perspectivè umbilicatâ, obtusè conicâ, solidiusculâ, vividè aurantio-rufâ, anfractibus declivi-convexis, undique confertim filo-liratis, ad peripheriam carinatis.*

MACGILLIVRAY'S CYCLOTUS. Shell deeply perspectively umbilicated, obtusely conical, rather solid, bright orange-red, whorls slopingly convex, closely thread-ridged throughout, keeled at the periphery.

Cyclostoma (Cyclotus) Macgillivrayi, Pfeiffer, Pro. Zool. Soc. 1855, p. 103.

Cyclotus Macgillivrayi, Pfeiffer.

Hab. New Hebrides and New Georgia; Macgillivray.

A rather solid obtusely conoid shell of a bright bronzy orange-red colour.

Species 58. (Mus. Cuming.)

CYCLOTUS MONTANUS. *Cycl. testâ angustè profundè umbilicatâ, depresso-conicâ, tenui, albâ, rosaceo-spadiceo obscurè punctatâ et fasciatâ, anfractibus declivi-rotundatis, undique spiraliter filo-liratis.*

THE MOUNTAIN CYCLOTUS. Shell narrowly deeply umbilicated, depressly conical, thin, white, obscurely dotted and banded with pinkish fawn-colour, whorls slopingly rounded, spirally thread-ridged throughout.

Cyclostoma montanum, Pfeiffer, Pro. Zool. Soc. 1854, p. 300.

Cyclotus montanus, Pfeiffer.

Hab. Neilgherry Hills, India.

The colouring above described may probably be more distinct in some specimens.

Species 59. (Mus. Cuming.)

CYCLOTUS CONOIDEUS. *Cycl. testâ angustè umbilicatâ, conoideâ, fulvâ, purpureo-griseo tinctâ, fasciâ angustâ castaneâ infra peripheriam cingulatâ, anfractibus spiraliter filo-striatis, ad peripheriam carinatis, ad suturam plicatis.*

THE CONOID CYCLOTUS. Shell narrowly umbilicated, conoid, fulvous, tinged with purple-grey, encircled below the periphery with a narrow chestnut band, whorls spirally thread-striated, keeled at the periphery, plicated at the suture.

Cyclostoma spurcum, Sowerby (not of Grateloup), Pro. Zool. Soc. 1843, p. 60.

Cyclostoma conoideum, Pfeiffer.

Tropidophora conoidea, Pfeiffer.

Cyclotus conoideus, Gray.

Hab. Mauritius and Seychelle Islands.

The typical characters of the group to which this little species belongs are developed in it with interesting fullness.

PTEROCYCLOS
MONOGRAPH

OF THE GENUS

P T E R O C Y C L O S .

“Ay, of a snail; for though he comes slowly, he carries his house on his head; he brings his destiny with him.”—*Shakespeare.*

MONOGRAPH

OF THE

PETER CYCLOS

PTEROCYCLOS.

	Plate.	Species.		Plate.	Species.
Albersi, <i>Pfeiffer</i>	II.	9	Haughtoni (<i>Rhiostoma</i>), Benson.	V.	30
anguliferus (<i>Cyclostoma</i>), Souleyet ..	II.	10	hispidus (<i>Spiraculum</i>), Pearson	V.	26
anomalus, <i>Reeve</i>	V.	27	Housei, <i>Haines</i>	IV.	21
Batchianensis, <i>Pfeiffer</i>	II.	6	nanus, <i>Benson</i>	III.	12
Bernardii, <i>Pfeiffer</i>	V.	23	parilis, <i>Pfeiffer</i>	I.	2
biciliatus (<i>Opisthoporus</i>), <i>Pfeiffer</i>	IV.	17	parvus (<i>Spiraculum</i>), Pearson	III.	15
bifrons, <i>Pfeiffer</i>	I.	1	<i>pictus</i> , <i>Troschel</i>	II.	8
bilabiatus, <i>Benson</i>	III.	13	planorbulus (<i>Cyclostoma</i>), <i>Lamarck</i> ..	I.	3
birostris (<i>Opisthoporus</i>), <i>Pfeiffer</i>	IV.	18	<i>Princepsi</i> , <i>Pfeiffer</i>	V.	26
Blandi, <i>Benson</i>	II.	7	<i>Pterocycloides</i> (<i>Opisthoporus</i>), <i>Pfeiffer</i>	V.	27
brevis (<i>Lituus</i>), <i>Martyn</i>	I.	4	pullatus, <i>Benson</i>	III.	16
cetra, <i>Benson</i>	III.	11	rostellatus (<i>Opisthoporus</i>), <i>Pfeiffer</i> ..	V.	25
<i>Cingalensis</i> , <i>Benson</i>	III.	14	rupestris, <i>Benson</i>	II.	8
Cochinchinensis (<i>Opisthoporus</i>), <i>Pfeiffer</i>	IV.	22	simplicilabris, <i>Pfeiffer</i>	IV.	20
Cumingii, <i>Pfeiffer</i>	III.	14	tenuilabiatus (<i>Cyclostoma</i>), <i>Metcalf</i>	I.	5
euryomphalus (<i>Opisthoporus</i>), <i>Pfeiffer</i>	V.	29	tubuliferus (<i>Opisthoporus</i>), <i>Pfeiffer</i> ..	V.	24
Hainesii (<i>Rhiostoma</i>), <i>Pfeiffer</i>	IV.	19	tener, <i>Menke</i>	V.	28



1.a.



2.a.



2.b.



3.a.



4.a.



4.b.



3.b.



5.a.



5.b.



1.b.

PTEROCYCLOS.

PLATE I.

Genus PTEROCYCLOS, Benson.

Testa perampliter umbilicata, plus minus discoidea, fulvescente, castaneo vel ustulato-brunneo variè fasciata et undulato-maculata, spirá depressá, anfractibus angustis, rotundatis, ultimo interdum soluto, tubulo parvo in suturam pone aperturam sæpe munito; aperturá circulari, labro duplicato, peritremate externo nunc in alam sinuosam nunc in tubulum producto.

Operculum calcareum, utrinque laminatum, inter laminas erectè spiraliter lamellatum, lateribus interdum subæqualiter concaviusculis, interdum latere externo planiusculo, interno valde concavo.

Shell very largely umbilicated, more or less discoid, fulvous, variously banded and wave-spotted with chestnut or burnt-brown, spire depressed, whorls narrow, rounded, the last sometimes uncoiled, often furnished with a small tube in the suture behind the aperture; aperture circular, lip duplicate, outer peritreme produced, sometimes into a sinuous wing, sometimes into a tube.

Operculum calcareous, laminated on each side, and erectly spirally lamellated between the laminæ, sides sometimes equally slightly concave, sometimes rather flat on the outer side, very concave on the inner.

The shells associated in this genus are distinguished by the curious feature of a winged sinus being developed at the upper margin of the lip on arriving at maturity (*Pterocyclos* proper). In some the marginal sinus is modified into a spouted tube (*Rhiostoma*); in others, a spouted tube is developed at the marginal sinus before the shell is mature (*Opisthoporus*), and remains at a greater or less distance behind the aperture. All three forms of *Pterocyclos* have been introduced and minutely described under the foregoing generic names by Mr. Benson. They are natives chiefly of Bengal, Burmah, Siam, Ceylon, and the islands of the Eastern Archipelago. What especial filaments of the animal correspond with this sinus or tube, no one has yet been able to show. Mr. Arthur Adams has described the external characters of the animal from a specimen collected as far north as Tsu-Sima, in the Korea Strait, but no mention is made of the relation between the soft parts and the particular structure which characterizes the genus.

Along with the modification of the sinus, there is also a modification of the operculum. It is composed in both

groups of two laminæ, between which is an erect spiral lamella. In *Pterocyclos* proper the spire is pushed out as it were from the inner side, which is thus rendered exceedingly convex; in the *Opisthoporus* and *Rhiostoma* groups the inner and outer laminæ are almost equally slightly concave, and as each lamina reaches at its circumference beyond the intervening erect lamellæ, the operculum has the appearance of a pulley (Recluz) or vertebra of a fish (Benson).

Species 1. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS BIFRONS. *Pter. testá perampliter apertè umbilicatá, discoideá, supra peripheriam purpureo-castaneá et fulvâ, infra violaceá, immaculatá, anfractibus rotundatis, supernè arcuato-striatis; aperturá obliquè circulari, sinu latiusculo, tumido.*

THE TWO-FACED PTEROCYCLOS. Shell very largely openly umbilicated, discoid, above the periphery purple-chestnut and fulvous, below violet, unspotted, whorls rounded, arcuately striated at the upper part; aperture obliquely circular, sinus rather broad, swollen.

PFEIFFER, Pro. Zool. Soc. 1855, p. 117.

Hab. Ceylon.

Named *bifrons* from the circumstance of the chestnut colouring terminating abruptly at a line encircling the shell at its periphery.

Species 2. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS PARILIS. *Pter. testá modicè perspectivè umbilicatá, subgloboso-turbinatá, solidiusculá, albidá, fulvo-castaneo infra peripheriam fasciatá, supra undulato-flammatá, anfractibus declivi-rotundatis, ad suturas marginatis; aperturá subamplá, labro crassè reflexo, sinu brevissimo, subobsoleto.*

THE LIKE PTEROCYCLOS. Shell moderately perspectivevely umbilicated, rather solid, somewhat globosely turbinated, whitish, banded below the periphery with fulvous-chestnut, undulately flamed above it, whorls slopingly rounded, margined at the sutures, aperture rather large, lip thickly reflected, sinus very short, almost obsolete.

PFEIFFER, MS. in Mus. Cuming.

Hab. — ?

February, 1863.

In this species, lately named by Dr. Pfeiffer, the shell is subglobosely turbinated, with the umbilicus rather contracted, as in *P. brevis*. Immediately below the periphery it is encircled with a conspicuous chestnut band, above it the colouring is disposed in promiscuous zigzag splashes.

Species 3. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS PLANORBULUS. *Pter. testâ perampliter apertè umbilicatâ, discoideâ, fulvo-castaneo tinctâ et obscurè fasciatâ, anfractibus rotundatis, ad suturas lineari-impressis, supernè tumidè plicato-corrugatis, deinde diagonaliter malleatis; aperturâ obliquè circulari, labro duplicato, sinu parviusculo.*

THE COILED PTEROCYCLOS. Shell very largely openly umbilicated, discoid, stained and obscurely banded throughout with fulvous chestnut, whorls rounded, linearly impressed at the sutures, tumidly plicately wrinkled round the upper part, then diagonally malleated; aperture obliquely circular, lip duplicate, sinus rather small.

Cyclostoma planorbulum, Lamarck, Enc. Méth. pl. 461. f. 3.

Cyclotus planorbulus, Swainson.

Pterocyclos planorbulus, Pfeiffer.

Hab. Pulo Condore.

The swollen wrinkles throughout the sutural margin of the whorls show indications of the presence of the auricular sinus, or of the development of some approach to the formation of one, from an early stage of growth.

Species 4. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS BREVIS. *Pter. testâ subampliter excavato-umbilicatâ, solidâ, fulvo-castaneo tinctâ et obscurè fasciatâ, versus apicem strigatâ, anfractibus rotundatis, ad suturas impressis et marginatis; aperturâ circulari, labro crassè reflexo, sinu continuo-producto.*

THE SHORT PTEROCYCLOS. Shell rather largely excavately umbilicated, solid, stained and obscurely banded with fulvous chestnut, streaked towards the apex, whorls rounded, impressed and margined at the sutures, aperture circular, lip thickly reflected, sinus continuously produced.

Lituus brevis, Martyn, Univ. Conch. pl. 28.

Turbo Petiverianus, Wood.

Cyclostoma Petiverianum, Gray.

Cyclostoma brevis, Pfeiffer.

Myxostoma Petiverianum, Troschel.

Cyclophorus brevis, Benson.

Hab. Pulo Condore.

In this species the sinus is continuously produced, as the shell advances in growth, resting on the body whorl. The circumference of the umbilicus is angularly excavated.

Species 5. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS TENUILABIATUS. *Pter. testâ perampliter apertè umbilicatâ, angustè discoideâ, fulvo-castaneo undique undato-marmoratâ, anfractibus rotundatis, subobscurè diagonaliter malleatis, densè annulato-striatis; aperturâ parviusculâ obliquâ, labro plano-reflexo, sinu tenuè latè dilatato.*

THE THIN-LIPPED PTEROCYCLOS. Shell very largely openly umbilicated, narrowly discoid, wave-marbled throughout with fulvous chestnut, whorls rounded, somewhat obscurely diagonally malleated, closely ring-striated; aperture rather small, oblique, lip flatly reflected, sinus thinly broadly dilated.

Cyclostoma tenuilabiatum, Metcalfe, Pro. Zool. Soc. 1851, p. 71.

Hab. Borneo.

An elegant, narrowly discoid species, in which the sinus, continuous with the outer expanded lip, is thinly broadly dilated, wing-like.



6.a.



7.a.



7.b.



8.a.



9.a.



9.b.



8.b.



10.a.



10.b.



6.b.

PTEROCYCLOS.

PLATE II.

Species 6. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS BATCHIANENSIS. *Pter. testā perampliter apertè umbilicatā, subdiscoideā, fulvo-castaneo tinctā et undatā, anfractibus rotundatis, densè striatis, superne obscurè spiraliter liratis et malleatis; aperturā parviusculā, sinu sublatè dilatato.*

THE BATCHIAN PTEROCYCLOS. Shell very largely openly umbilicated, subdiscoid, stained and waved with fulvous chestnut, whorls rounded, closely striated, spirally obscurely ridged and malleated at the upper part; aperture rather small, sinus rather broadly dilated.

PFEIFFER, MS. in Mus. Cuming.

Hab. Isle of Batchian.

The whorls in this species present indications of spiral equidistant ridges on the upper part.

Species 7. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS BLANDI. *Pter. testā subampliter apertè umbilicatā, subdiscoideā, fulvo-castaneo obliquè strigatā et variegatā, infra peripheriam angustè fasciatā, anfractibus ad suturas impressis, rudè striatis; aperturā obliquè circulari, labro crassè reflexo, duplicato, sinu flexuosè auriculo-dilatato.*

BLAND'S PTEROCYCLOS. Shell rather largely openly umbilicated, somewhat discoid, obliquely streaked and variegated with fulvous chestnut, narrowly banded below the periphery, whorls impressed at the sutures, rudely striated; aperture obliquely circular, lip thickly reflected, duplicate, sinus flexuously auricularly dilated.

BENSON, Ann. Nat. Hist. ser. 2. vol. viii. p. 5. f. 1.

Hab. Island of Pulo Susson, near Pulo Penang.

I have no authority for regarding this shell as *P. Blandi* beyond the circumstance of its differing from the other described species of the genus, and agreeing pretty nearly with Mr. Benson's outline figure.

Species 8. (Fig. a, b, Mus. Benson.)

PTEROCYCLOS RUPESTRIS. *Pter. testā latissimè per-*

apertè umbilicatā, angustè discoideā, ustulato-fusco tinctā et obscurè fasciatā, anfractibus rotundatis, ad suturas lineari-impressis, deinde plicato-striatis; aperturā obliquè circulari, sinu tumido et auriculato-contorto, margine inferiore ad extremitatem uncinato.

THE ROCK-INHABITING PTEROCYCLOS. Shell very broadly, very openly umbilicated, narrowly discoid, stained and obscurely banded with burnt brown, whorls rounded, linearly impressed at the sutures, then plicately striated, aperture obliquely circular, sinus swollen and auricularly twisted, lower margin hooked at the extremity.

BENSON, Journ. Asiat. Soc. 1832, p. 11. pl. 2.

Pterocyclos pictus, Troschel.

Steganotoma pictum, Troschel.

Cyclostoma pictum, Petit.

Hab. Cuttack, India.

The sinus in this very interesting species is tumidly auricularly contorted on the body whorl, and the lower margin curls into it at its extremity in the form of a sharp involute hook.

Species 9. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS ALBERSI. *Pter. testā ampliter apertè umbilicatā, subdiscoideā, fulvā, castaneo undatā, infra peripheriam et circa umbilicum latifasciatā, anfractibus rotundatis, ad suturas plicato-marginatis, deinde rudè striatis; aperturā parviusculā, sinu flexuoso-auriculato, margine dilatato descendente.*

ALBERS' PTEROCYCLOS. Shell largely openly umbilicated, subdiscoid, fulvous, waved with chestnut, broadly banded below the periphery and around the umbilicus, whorls rounded, plicately margined at the sutures, then rudely striated, aperture rather small, sinus flexuously auriculated, the dilated margin descending.

PFEIFFER, Zeitschr. für Malak. 1847, p. 151.

Cyclostoma Albersi, Petit.

Hab. Khasia Hills, India.

Encircled with two characteristic dark bands. At the aperture the dilated wing-like process descends forward over the sinus.

Species 10. Fig. a, b, (Mus. Cuming.)

PTEROCYCLOS ANGULIFERUS. *Pter. testâ latissimè perapertè umbilicatâ, angustè discoideâ, fulvo-castaneo undatâ et tinctâ, anfractibus ad suturas impressis, deinde rotundatis, undique densè rudè striatis; aperturâ obliquè circulari, labro calloso-duplicato, reflexo, sinu continuè angulato-producto.*

THE ANGULAR PTEROCYCLOS. Shell very broadly, very openly umbilicated, narrowly discoid, waved and stained with fulvous brown, whorls impressed at the

sutures, then rounded, closely rudely striated throughout, aperture obliquely circular, lip callously duplicate, reflected, sinus continuously angularly produced.

Cyclostoma anguliferum, Souleyet, Voy. de la Bonite, Moll. pl. 30. f. 6-11.

Pterocyclos anguliferus, Pfeiffer.

Hab. Cochín-China.

A narrowly discoid species, with the sinus very conspicuously angularly produced upon the body whorl.



11.



12. a.



12. b.



13. a.



14. a.



14. b.



13. b.



15. a.



15. b.



16.

PTEROCYCLOS.

PLATE III.

Species 11. (Mus. Benson.)

PTEROCYCLOS CETRA. *Pter. testá sublatè apertè umbilicatá, subdiscoideá, fulvo-albidá, rufo-fusco arcuato-maculatá, anfractibus angustis, rotundatis, tenuistriatis; aperturá parvâ, sinu brevi, labro parum dilatato.*

THE BUCKLER PTEROCYCLOS. Shell rather broadly openly umbilicated, subdiscoid, fulvous-white, arcuately blotched with red-brown, whorls narrow, rounded, finely striated; aperture small, sinus short, lip but little dilated.

BENSON, Ann. Nat. Hist. ser. 2, vol. xvii. p. 228.

Hab. Moulmein, India.

Very like *P. nanus* which follows, but more discoid and more broadly umbilicated, with the lip less flexuously dilated over the sinus.

Species 12. (Fig. a, b, Mus. Benson.)

PTEROCYCLOS NANUS. *Pter. testá apertè umbilicatá, subdiscoideá, pallidè fulvâ, ad peripheriam rufo-fusco lineari-fasciatá, supra arcuato-maculatá, anfractibus angustis, rotundatis, tenuissimè striatis; aperturá parvâ, sinu tumidè flexuoso-dilatato.*

THE DWARF PTEROCYCLOS. Shell openly umbilicated, subdiscoid, light fulvous, linearly banded with red-brown at the periphery, arcuately blotched above it, whorls narrow, rounded, very finely striated; aperture small, sinus tumidly flexuously dilated.

BENSON, Ann. Nat. Hist. vol. viii. p. 450.

Hab. Neilgherry Hills.

A small species, in which the wing-like dilation of the lip is flexuously swollen and bent forwards, somewhat after the manner of *P. rupestris* and *Albersi*.

Species 13. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS BILABIATUS. *Pter. testá ampliter subexcavato-umbilicatá, vix discoideá, albidá, rufo-fusco undato-strigatá et fasciatá, anfractibus rotundatis, densè striatis; aperturá obliquâ, labro peculiariter undato-crispato, ad sinus tumido-cucullato.*

THE TWO-LIPPED PTEROCYCLOS. Shell largely somewhat excavately umbilicated, scarcely discoid, whitish,

wave-streaked and banded with red-brown, whorls rounded, closely striated; aperture oblique, lip peculiarly crimped, tumidly chambered over the sinus.

BENSON, Zool. Journ. 1834, vol. v. p. 462.

Cyclostoma bilabiatum, Sowerby.

Hab. Salem, near Madras.

Remarkably distinguished by a peculiar crimping of the lip.

Species 14. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS CUMINGII. *Pter. testá latissimè perapertè umbilicatá, discoideá, fulvescente-albâ, castaneo undique undato-strigatá, anfractibus angustis, rotundatis, tenuè annulato-striatis; aperturá obliquè circulari, labro calloso-reflexo, sinu conspicuè flexuoso-auriculato.*

CUMING'S PTEROCYCLOS. Shell very broadly, very openly umbilicated, discoid, fulvous-white, sharply waved throughout with chestnut, whorls narrow, rounded, finely ring-striated; aperture obliquely circular, lip callously reflected, sinus conspicuously flexuously auriculated.

PFEIFFER, Zeitschr. für Malac. 1851, p. 4; Pro. Zool. Soc. 1852, p. 158.

Pterocyclos Cingalensis, Benson.

Hab. Ceylon.

A depressly discoid, very openly umbilicated species, exquisitely painted in a zigzag manner throughout.

Species 15. (Fig. a, b, Mus. Benson.)

PTEROCYCLOS PARVUS. *Pter. testá latè umbilicatá, subdiscoideá, fulvo-albidá, rufo-castaneo fasciatá et undato-strigatá, anfractibus rotundatis, rudè striatis; aperturá obliquè circulari, sinu tumido-auriculato.*

THE SMALL PTEROCYCLOS. Shell broadly umbilicated, subdiscoid, fulvous-white, banded and wave-streaked with reddish chestnut, whorls rounded, rudely striated; aperture obliquely circular, sinus tumidly auriculated.

Spiraculum parvum, Pearson, Journ. Asiat. Soc. 1833, p. 392. pl. 20.

Pterocyclos parvus, Benson.

Cyclostoma spiraculum, var., Sowerby.

Hab. Khasia Hills.

PTEROCYCLOS.—PLATE III.

Very closely allied to *P. cetra* and *nanus*, with the sinus more distinctly auriculated.

Species 16. (Mus. Benson.)

PTEROCYCLOS PULLATUS. *Pter. testâ subampliter excavato-umbilicatâ, vix discoideâ, pullâ, obscure fasciatâ et undatâ, infra peripheriam saturatiore, anfractibus rotundatis, rudè striatis; aperturâ circulari, sinu angustè auriculato.*

THE DARK PTEROCYCLOS. Shell rather largely excavately umbilicated, scarcely discoid, dark-brown, obscurely banded and waved, darker below the periphery, whorls rounded, rudely striated; aperture circular, sinus narrowly auriculated.

BENSON, Ann. Nat. Hist. ser. 2. vol. xvii. p. 227.

Hab. Near the Irawadi, Burmah.

More contractedly umbilicated, and of darker colour than its allies of the Khasia and Neilgherry Hills.



17.



18.a.



18. b.



19.a.



20.a.



20. b.



19. b.



21.a.



21.b.



22.

PTEROCYCLOS.

PLATE IV.

Species 17. (Mus. Cuming.)

PTEROCYCLOS BICILIATUS. *Pter. testá latè apertè umbilicatá, discoideá, fulvá, castaneo latè undatá, anfractibus rotundatis, densè striatis, supra et infra peripheriam seriatim ciliatis, anfractu ultimo pone aperturam tubulo recurvo munito; aperturá obliquè circulari, labro supernè tenuè flexuoso-dilatato.*

THE TWO-LASHED PTEROCYCLOS. Shell broadly openly umbilicated, discoid, fulvous, broadly waved with chestnut, whorls rounded, densely striated, encircled above and below the periphery with a row of lashes, last whorl furnished behind the aperture with a recurved tube; aperture obliquely circular, lip thinly flexuously dilated at the upper part.

Mousson, Benson, Ann. Nat. Hist. ser. 2. vol. xv. p. 14.

Cyclostoma biciliatum, Pfeiffer.

Cyclostoma Charbonnieri, Recluz.

Cyclotus Taylorianus, Pfeiffer.

Opisthoporus biciliatus, Benson.

Hab. Sarawak, Borneo.

The species represented in this and the following plates, characterized by the presence of a tubular process emerging from behind the aperture, constitute the genera *Opisthoporus* and *Rhiostoma* of Benson. When it is a little removed from the aperture the species belong to the former group, when arising from a tubular sinuation of the lip, to the latter. *P. ciliatus* is distinguished as a species in being encircled on either side of the periphery, with a neatly-defined row of bristly lashes.

Species 18. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS BIROSTRIS. *Pter. testá latissimè apertè umbilicatá, discoideá, fulvá, castaneo fasciatá et acutè undato-strigatá, anfractibus rotundatis, undique annulato-striatis, anfractu ultimo subsoluto, pone aperturam tubulo incurvo munito; aperturá circulari, labro concavo-inflecto, supernè tubulo-sinuato.*

THE TWO-BEAKED PTEROCYCLOS. Shell very broadly openly umbilicated, discoid, fulvous, banded and sharply wave-streaked with chestnut, whorls rounded, ring-striated throughout, last whorl rather uncoiled, furnished with an incurved tube behind the aperture; aperture circular, lip concavely inflected, tubularly sinuated at the upper part.

Cyclotus birostris, Pfeiffer, Pro. Zool. Soc. 1854, p. 300.

Opisthoporus birostris, Pfeiffer.

Hab. Sarawak, Borneo.

The tube behind the aperture is not curved backwards, as in the last species, but forwards, and a second tube is formed by an inflected sinuation of the lip.

Species 19. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS HAINESII. *Pter. testá ampliter perspectivè umbilicatá, subdiscoideá, fulvescente-fuscá, castaneo fasciatá et marmoratá, anfractibus ad suturas subappressis, deinde rotundatis, densè striatis, anfractu ultimo conspicuè soluto; aperturá circulari, labro crassè reflexo, supernè tubulo recurvo prominente munito.*

HAINES' PTEROCYCLOS. Shell largely perspectivevely umbilicated, somewhat discoid, fulvous-brown, banded and mottled with chestnut, whorls a little appressed at the sutures, then rounded, densely striated, last whorl conspicuously unrolled; aperture circular, lip thickly reflected, furnished at the upper part with a prominent recurved tube.

Rhiostoma Hainesii, Pfeiffer, MS. in Mus. Cuming.

Hab. Cambojia; Mouhot.

A very striking species, in which the last whorl is uncoiled on arriving at maturity, to make room for a conspicuous recurved tube, emerging from the upper margin of the aperture.

Species 20. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS SIMPLICILABRIS. *Pter. testá latè apertè umbilicatá, discoideá, fulvá, rufo-fusco fasciatá et undulato-strigatá, anfractibus rotundatis, undique densè annulato-striatis, anfractu ultimo soluto; aperturá circulari, labro calloso-reflexo, sinu in tubulum producto.*

THE SIMPLE-LIP PTEROCYCLOS. Shell broadly umbilicated, discoid, fulvous, banded and wave-streaked with brown, whorls rounded, closely ring-striated throughout, last whorl uncoiled; aperture circular, lip callously reflected, sinus produced into a tube.

PFEIFFER, MS. in Mus. Cuming.

Hab. Cambojia.

In this and the species which follows, the last whorl is

also curiously pushed from its spire of convolution on arriving at maturity, in consequence of the sinus, characteristic of this genus, being developed into a tube.

Species 21. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS HOUSEI. *Pter. testā subampliter apertē umbilicatā, discoideā, albidā, strigis angustis fulvescente-fuscis pictā, anfractibus ad suturas impressis et marginatis, deinde rotundatis, densē tenuistriatis, anfractu ultimo soluto; aperturā circulari, labro tenuē expanso, sinu in tubulum angustum elongatum producto.*

HOUSE'S PTEROCYCLOS. Shell rather largely openly umbilicated, discoid, whitish, painted with narrow fulvous-brown angular streaks, whorls impressed and margined at the sutures, then rounded, closely finely striated, last whorl uncoiled; aperture circular, lip thinly expanded, sinus produced into a narrow elongated tube.

Cyclostoma Housei, Haines, Ann. Lyc. New York, vol. vi. p. 157. pl. 5. f. 12 to 15.

Rhiostoma Housei, Benson.

Hab. Siam; House.

A more slenderly convoluted species than the preceding with the tube rather narrower and longer.

Species 22. (Mus. Cuming.)

PTEROCYCLOS COCHINCHINENSIS. *Pter. testā sublatē apertē umbilicatā, discoideā, sub epidermide fulvā albā, anfractibus rotundatis, undique tenuistriatis, anfractu ultimo subsoluto; aperturā circulari, labro simplici, sinu in tubulum parvum producto.*

THE COCHIN-CHINA PTEROCYCLOS. Shell rather broadly openly umbilicated, discoid, white, beneath a fulvous epidermis, whorls rounded, finely striated throughout, last whorl slightly uncoiled; aperture circular, lip simple, sinus produced into a small tube.

Cyclostoma Cochinchinense, Pfeiffer, Pro. Zool. Soc. 1856, p. 337.

Opisthoporus Cochinchinensis, Pfeiffer.

Hab. Cochin-China.

Better specimens than are at present known of this species are required to ascertain its colouring. The shell here figured is entirely denuded of its epidermis.



23.



24.



25.



26a.



27a.



27b.



26b.



28.



29.



30.

PTEROCYCLOS.

PLATE V.

Species 23. (Mus. Cuming.)

PTEROCYCLOS BERNARDII. *Pter. testâ ampliter umbilicatâ, subdiscoideâ, fulvescente, anfractibus rotundatis, tenuè annulato-striatis; aperturâ circulari, labro crassè reflexo, sinu in tubulum parvum incurvum producto.*

BERNARDI'S PTEROCYCLOS. Shell largely umbilicated, somewhat discoid, fulvous, whorls rounded, finely ring-striated; aperture circular, lip thickly reflected, sinus produced into a small incurved tube.

PFEIFFER, MS. in Mus. Cuming.

Hab. — ?

Of simple form and semitransparent fulvous colour, with a small incurved tubular sinus.

Species 24. (Mus. Cuming.)

PTEROCYCLOS TUBULIFERUS. *Pter. testâ latè apertè umbilicatâ, subdiscoideâ, fulvescente, rufo-fusco marmoratâ, anfractibus rotundatis, densè tenuistriatis; aperturâ obliquè circulari, labro duplicato, concavo-dilatato, sinu in tubulum minutum producto.*

THE TUBE-BEARING PTEROCYCLOS. Shell broadly openly umbilicated, subdiscoid, fulvous, mottled with red-brown, whorls rounded, closely finely striated; aperture obliquely circular, lip duplicate, concavely dilated, sinus reduced into a minute tube.

Cyclostoma tubuliferum, Pfeiffer, Pro. Zool. Soc. 1853, p. 51.

Cyclotus tubuliferus, Pfeiffer.

Opisthoporus tubuliferus, Benson.

Hab. — ?

The tubular sinus is smaller in this species than in any other, almost concealed from view within the sutures.

Species 25. (Mus. Cuming.)

PTEROCYCLOS ROSTELLATUS. *Pter. testâ modicè excavato-umbilicatâ, subdiscoideâ, fulvâ, rufo-fusco undato-marmoratâ, anfractibus rotundatis, tenuistriatis, anfractu ultimo tubulo minuto erecto pone aperturam; aperturâ circulari, labro expanso-reflexo.*

THE BEAKED PTEROCYCLOS. Shell moderately excavately umbilicated, subdiscoid, fulvous, wave-marbled

with red-brown, whorls rounded, finely striated, last whorl with a small erect tube behind the aperture; aperture circular, lip expandedly reflected.

Cyclostoma rostellatum, Pfeiffer, Zeitschr. für Malak. 1851, p. 8.

Cyclotus rostellatus, Pfeiffer.

Opisthoporus rostellatus, Pfeiffer.

Hab. — ?

In this species, which is less openly convoluted, the minute tube, accidentally omitted in our figure, is a little removed from the aperture.

Species 26. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS HISPIDUS. *Pter. testâ latissimè perapertè umbilicatâ, plano-discoideâ, solidâ, fulvâ, supernè ustulato-fusco tinctâ et marmoratâ, anfractibus rotundatis, spiraliter multiliratis, concentricè densè striatis, epidermide hispidulâ indutis, anfractu ultimo tubulo recurvo subremotè pone aperturam; aperturâ obliquè circulari, labro densè calloso-reflexo, sinu latè angulatè continuo-producto.*

THE HAIRY PTEROCYCLOS. Shell very broadly very openly umbilicated, flatly discoid, solid, fulvous, stained and marbled at the upper part with burnt brown, whorls rounded, spirally many-ridged, concentrically closely striated, covered with a slightly hairy epidermis, last whorl with a recurved tube at some distance behind the aperture; aperture obliquely circular, lip thickly callously reflected, sinus broadly angularly continuously produced.

Spiraculum hispidum, Pearson, Journ. Asiat. Soc. 1853, p. 391. pl. 20.

Cyclostoma spiraculum, Sowerby.

Steganotoma Princepsi, Von dem Busch.

Pterocyclos hispidus, Benson.

Pterocyclos Princepsi, Pfeiffer.

Hab. Khasia Hills, India.

This is the only species of the genus in which there is any close well-defined spiral sculpture; and the recurved tube at a point of the suture removed from the aperture, characteristic of the group *Opisthoporus*, is here combined with the produced angular sinus chiefly typical of *Pterocyclos* proper.

Species 27. (Fig. a, b, Mus. Cuming.)

PTEROCYCLOS ANOMALUS. *Pter. testâ latissimè apertè umbilicatâ, discoideâ, fulvescente-albâ, rufo-fusco undique nitidè undato-strigatâ, anfractibus rotundatis, decussatim striatis, anfractu ultimo tubulo suturali recumbente pone aperturam; aperturâ obliquè circulari, labro latè plano-reflexo, supernè subdilatato, sinu ferè obsoleto.*

THE ANOMALOUS PTEROCYCLOS. Shell very broadly openly umbilicated, discoid, fulvous-white, neatly wave-streaked throughout with red-brown, whorls rounded, decussately striated, last whorl with a recumbent sutural tube behind the aperture; aperture obliquely circular, lip broadly flatly reflected, a little dilated at the upper part, sinus almost obsolete.

Cyclostoma pterocycloides, Pfeiffer, Pro. Zool. Soc. 1854, p. 300.

Cyclotus pterocycloides, Pfeiffer.

Opisthoporus pterocycloides, Pfeiffer.

Hab. Borneo.

The tube of this species is recumbent in the suture.

Species 28. (Mus. Cuming.)

PTEROCYCLOS TENER. *Pter. testâ ampliter umbilicatâ, subdiscoideâ, pellucido-luteâ, anfractibus rotundatis, undique tenuè annulato-striatis; aperturâ circulari, labro tenui, duplicato, sinu in tubulo minuto recurvo producto.*

THE DELICATE PTEROCYCLOS. Shell largely umbilicated, subdiscoid, transparent yellow, whorls rounded, finely ring-striated throughout; aperture circular, lip thin, duplicate, sinus produced into a small recurved tube.

MENKE, Malak. Blat. 1856, p. 69.

Rhiostoma tener, Benson.

Hab. Cochín-China.

A delicate semitransparent shining yellow shell, ringed throughout with thread-like striæ.

Species 29. (Mus. Cuming.)

PTEROCYCLOS EURYOMPHALUS. *Pter. testâ latissimè perapertè umbilicatâ, plano-discoideâ, fulvâ, castaneo undique acutè undatâ, spirâ subimmersâ, anfractibus angustis, rotundatis, tenuistriatis, anfractu ultimo tubulo parvo recurvo subremotè pone aperturam; aperturâ obliquè circulari, labro duplicato, supernè tenuè tumido-dilatato.*

THE WIDELY-UMBILICATED PTEROCYCLOS. Shell very widely very openly umbilicated, flatly discoid, fulvous, sharply waved throughout with chestnut, spire rather immersed, whorls narrow, rounded, finely striated, last whorl with a small recurved tube at some distance behind the aperture; aperture obliquely circular, lip duplicate, thinly tumidly dilated at the upper part.

Cyclostoma euryomphalus, Pfeiffer, Pro. Zool. Soc. 1856, p. 337.

Opisthoporus euryomphalus, Pfeiffer.

Hab. Borneo.

Very slenderly discoidly coiled, with a crowded painting of sharply zigzag chestnut streaks.

Species 30. (Mus. Benson.)

PTEROCYCLOS HAUGHTONI. *Pter. testâ ampliter umbilicatâ, subdiscoideâ, fulvo-albidâ, supernè rufo-fusco tinctâ, ad peripheriam fasciatâ et undulatâ, anfractibus declivi-rotundatis, densè plicato-striatis, anfractu ultimo soluto; aperturâ circulari, labro vix reflexo, sinu erecto-auriculato, subrecurvo.*

HAUGHTON'S PTEROCYCLOS. Shell largely umbilicated, subdiscoid, fulvous-white, stained on the upper part with red-brown, banded and delicately waved at the periphery, whorls slopingly rounded, closely plicately striated, last uncoiled; aperture circular, lip scarcely reflected, sinus erectly auriculated, a little recurved.

Rhiostoma Haughtoni, Benson, Ann. Nat. Hist. ser. 3. vol. 5. p. 96.

Hab. Moulmein, India.

A very distinct dark-stained species, in which the sinus assumes the form of a recurved section of a tube.

CHONDROPOMA.

MONOGRAPH

OF THE GENUS

CHONDROPOMA.

“I would not for a world of gold
That Nature’s lovely face should tire ;
Fountain of blessings yet untold ;
Pure source of intellectual fire !”—*Bloomfield.*

MONOGRAPH

OF THE GRAVE

CHONDROMA

CHONDROPOMA.

	Plate.	Species.		Plate.	Species.
abnatum, <i>Gundlach</i>	VI.	43	litturatum, <i>Pfeiffer</i>	IV.	26
Agassizii (<i>Cistula</i>), <i>Pfeiffer</i>	IX.	64	lividum, <i>Reeve</i>	XI.	83
angustatum, <i>Pfeiffer</i>	IV.	29	Loweianum, <i>Pfeiffer</i>	VI.	44
Antiguense (<i>Cistula</i>), <i>Pfeiffer</i> . .	X.	72	lugubre (<i>Cistula</i>), <i>Pfeiffer</i>	X.	76
argutum, <i>Pfeiffer</i>	VII.	48	<i>lunulatum</i> , <i>Morch</i>	V.	38
<i>Auberianum</i> , <i>D'Orbigny</i>	V.	38	magnificum, <i>Pfeiffer</i>	I.	1
basicarinatum, <i>Pfeiffer</i>	VIII.	58	<i>Mahogani</i> , <i>Gould</i>	I.	5
bilabiatum (<i>Cyclos.</i>), <i>D'Orbigny</i> . .	IX.	71	marginalbum, <i>Gundlach</i>	VIII.	59
blandum, <i>Pfeiffer</i>	VIII.	62	marinum, <i>Weinland</i>	VIII.	57
Blauneri, <i>Shuttleworth</i>	III.	19	mæstum, <i>Shuttleworth</i>	II.	14
Candeanum, <i>D'Orbigny</i>	VI.	40	mordax (<i>Cistula</i>), <i>Pfeiffer</i>	X.	79
<i>Charpentieri</i> , <i>Shuttleworth</i>	II.	14	Newcombianum, <i>Adams</i>	III.	16
cinclidodes (<i>Cistula</i>), <i>Pfeiffer</i> . .	XI.	81	<i>nodulosum</i> , <i>Gray</i>	VII.	49
<i>claudicans</i> , <i>Pfeiffer</i>	II.	7	obesum (<i>Trunc.</i>), <i>Menke</i>	III.	23
Cordovanum, <i>Pfeiffer</i>	IV.	24	Ottonis, <i>Pfeiffer</i>	III.	22
crenulatum (<i>Cycl.</i>), <i>Férussac</i> . .	VII.	49	pallidum (<i>Cistula</i>), <i>Pfeiffer</i>	X.	77
Cumanense, <i>Pfeiffer</i>	V.	36	papyraceum, <i>C. B. Adams</i>	VIII.	63
Delatreanum, <i>D'Orbigny</i>	V.	33	perlatum, <i>Gundlach</i>	IV.	30
dentatum (<i>Cycl.</i>), <i>Say</i>	V.	38	Petitianum, <i>Pfeiffer</i>	V.	34
diaphanum, <i>Pfeiffer</i>	V.	32	<i>petricosum</i> , <i>Morelet</i>	III.	22
dissolutum, <i>Pfeiffer</i>	IV.	27	Pfeifferianum, <i>Poey</i>	V.	35
egregium, <i>Gundlach</i>	I.	3	pictum, <i>Pfeiffer</i>	I.	5
eusarcum, <i>Pfeiffer</i>	VII.	54	plicatulum, <i>Pfeiffer</i>	III.	20
glabratum, <i>Weinland</i>	II.	12	Poeyanum (<i>Cycl.</i>), <i>D'Orbigny</i> . .	III.	15
Grateloupi (<i>Cistula</i>), <i>Pfeiffer</i> . . .	XI.	84	<i>Poeyanum</i> , <i>Pfeiffer</i>	II.	14
Gruneri (<i>Cistula</i>), <i>Pfeiffer</i>	IX.	68	puncticulatum, <i>Pfeiffer</i>	VI.	41
<i>Guadaloupense</i> , <i>Pfeiffer</i>	VII.	49	quaternatum (<i>Cycl.</i>), <i>Lamarck</i> . .	VIII.	60
<i>Gutierrez</i> , <i>Poey</i>	I.	1	radiosum, <i>Morelet</i>	X.	69
<i>Habichii</i> , <i>Weinland</i>	I.	6	radula (<i>Cistula</i>), <i>Pfeiffer</i>	XI.	89
harpa, <i>Pfeiffer</i>	VII.	55	revinctum (<i>Cycl.</i>), <i>Poey</i>	VI.	46
<i>Hellenicum</i> (<i>Cycl.</i>), <i>Gray</i>	II.	14	revocatum, <i>Gundlach</i>	VII.	53
hemiotum, <i>Pfeiffer</i>	III.	18	Riisei, <i>Pfeiffer</i>	X.	80
Hjalmersoni, <i>Pfeiffer</i>	VIII.	61	rostratum (<i>Cistula</i>), <i>Pfeiffer</i> . .	IX.	70
ignea, <i>Reeve</i>	XI.	88	rubicundum (<i>Cycl.</i>), <i>Morelet</i> . .	VI.	47
incultum (<i>Cyclos.</i>), <i>Poey</i>	X.	74	rude, <i>Weinland</i>	IV.	28
integrum, <i>Pfeiffer</i>	IV.	25	rufilabre (<i>Cyclos.</i>), <i>Beck</i>	X.	73
irradians, <i>Shuttleworth</i>	II.	8	rufopictum, <i>Gundlach</i>	V.	39
jucundum, <i>Pfeiffer</i>	III.	17	sagittiferum, <i>Pfeiffer</i>	IX.	67
Küsteri, <i>Pfeiffer</i>	XI.	87	<i>Sagra</i> , <i>D'Orbigny</i>	I.	5
Largillierti (<i>Cistula</i>) <i>Pfeiffer</i> . . .	XI.	86	Salleianum, <i>Pfeiffer</i>	II.	10
latilabre (<i>Cycl.</i>), <i>D'Orbigny</i> . . .	II.	11	Santacruzense, <i>Pfeiffer</i>	VII.	50
latum, <i>Gundlach</i>	VIII.	56	Sauliæ (<i>Cyclos.</i>), <i>Sowerby</i>	XI.	85
<i>lineolatum</i> , <i>Anton</i>	V.	38	<i>semilabre</i> , <i>Pfeiffer</i>	I.	2

CHONDROPOMA.—INDEX.

	Plate.	Species.
Shepardianum (<i>Cycl.</i>), C. B. Adams	X.	78
Shuttleworthi, Pfeiffer	I.	4
simplex, Pfeiffer	VI.	42
solare, Pfeiffer	IX.	66
Swifti, Shuttleworth	III.	21
Swiftianum, Newcomb	III.	16
Tamsiana (<i>Cyclos.</i>), Pfeiffer	X.	75
tenebrosum (<i>Cycl.</i>), Morelet	II.	7
ternatum, Gould	IX.	65
textum, Gundlach	VII.	51

	Plate.	Species.
Tortolense, Pfeiffer	IV.	31
trochleare (<i>Cistula</i>), Pfeiffer	XI.	82
Troscheli, Pfeiffer	III.	16
truncatum, Pfeiffer	VI.	40
turritum, Pfeiffer	VII.	52
Venezuelense, Pfeiffer	VI.	45
verecundum, Poey	I.	4
violaceum, Pfeiffer	II.	13
Weinlandi, Pfeiffer	I.	2



2a.



1a.



2b.



1b.



3.



4.



1c.



5a.



5b.



6.

CHONDROPOMA.

PLATE I.

Genus CHONDROPOMA, Pfeiffer.

Testa oblongo-turrita, rarius globoso-turbinata, plerumque densè filo-lirata vel reticulata, ad suturas crenulata; apertura parviuscula, ovalis, labro nunc simplici vel expanso, nunc fimbriato. Operculum ovale, subcartilagineum, planum, anfractibus paucis, rapidè accrescentibus, nucleo plerumque valdè excentrico.

Shell oblong-turreted, rarely globosely turbinated, generally densely thread-ridged or reticulated, and crenulated at the sutures; aperture rather small, oval, with the lip sometimes simple or expanded, sometimes fimbriated. Operculum oval, somewhat cartilaginous, flat, whorls few, increasing rapidly, nucleus mostly far removed from the centre.

This genus, in which I include *Cistula* of Gray, and of Pfeiffer's monograph, is characterized by the operculum being of a flat cartilaginous substance, of a few rapidly increasing whorls, with the nucleus removed from the centre. It comprises about ninety species, all inhabiting the islands of the West Indies and the adjacent lands of Venezuela, Guatemala, and Florida; but the Continental species are comparatively few in number. The shells are, for the most part, characterized by a remarkable similarity of form and sculpture, oblong-turreted, densely crowded with raised thread-like striæ or ridges, which in some species run longitudinally only, in others both longitudinally and transversely, producing a more or less elaborately woven reticulation. The aperture of the shell is generally small, circularly ovate, and fimbriated, and when the frill is auricled at the upper part, which is not unfrequently the case, the auricles are deposited within the suture, as the whorl advances in growth, in tooth-like crenules. In a few species the longitudinal striæ assume the form of erect lamellæ or membranaceous threads, and they are often rendered scabrous by decussating incised striæ. The colouring of the shells is mostly fulvous, variously banded, streaked, or freckled with reddish brown.

Species 1. (Fig. a, b, c, Mus. Cuming.)

CHONDROPOMA MAGNIFICA. *Chond. testâ ovato-conicâ, subcylindrâ, plus minus umbilicatâ, diaphano-albâ, strigis vittisque rufescente-fuscis cingulatâ, anfractibus tumido-convexis, densè longitudinaliter filo-liratis, liris*

diaphanis; aperturâ ovatâ, labro latè fimbriato-reflexo, fusco lineari-radiato.

THE MAGNIFICENT CHONDROPOMA. Shell ovately conical, subcylindrical, more or less umbilicated, diaphanous white, encircled with red-brown streaks and fillets, whorls tumidly convex, densely longitudinally thread-ridged, ridges diaphanous; aperture ovate, lip broadly fimbriately reflected, lineally rayed with brown.

Cyclostoma magnificum, Pfeiffer, Pro. Zool. Soc. 1852, p. 142. pl. 13. f. 3.

Chondropoma magnificum, Pfeiffer.

Chondropoma Gutierrezii, Poey.

Hab. Island of Haiti, West Indies; Sallé.

Of a delicate diaphanous white, finely stringed throughout with thread-like ridges of similarly diaphanous substance, the whorls being encircled with red-brown fillets and bands of streaks, conspicuously rayed in the aperture.

Species 2. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA WEINLANDI. *Chond. testâ vix umbilicatâ, elongato-cylindrâ, albidâ vel rufescente-aurantiâ, castaneo-fusco variè strigatâ, fasciatâ, vel punctatâ, anfractibus modicè convexis, creberrimè plicato-striatis; aperturâ obliquè ovatâ, parvâ, supernè carinatâ, subsolutâ, labro simplici, continuo.*

WEINLAND'S CHONDROPOMA. Shell scarcely umbilicated, elongately cylindrical, white or reddish orange, variously streaked, banded or dotted with chestnut-brown, whorls moderately convex, very closely plicately striated; aperture obliquely ovate, small, keeled at the upper part, a little detached, lip simple, continuous.

PFEIFFER, Malak. Blat. 1862.

Chondropoma semilabre, Pfeiffer (not *Cyclostoma semilabre*, Lamarck).

Hab. Island of Haiti, West Indies; Sallé.

Extremely variable in painting, but constant in form; a somewhat elongately cylindrical form, with a small semi-detached aperture.

Species 3. (Mus. Cuming.)

CHONDROPOMA EGREGIUM. *Chond. testâ coarctatè umbilicatâ, ovato-conicâ, sericeo-aurantiâ, rufescente-fusco*

obscurè punctato-fasciatá et prope apicem strigatá, anfractibus convexis, densè minutè reticulatis; aperturá obliquè ovatá, latissimè fimbriatá.

THE CHOICE CHONDROPOMA. Shell contractedly umbilicated, ovately conical, silky orange, obscurely dot-banded with red-brown, and near the apex streaked, whorls convex, densely minutely reticulated; aperture obliquely ovate, very broadly fimbriated.

Cyclostoma egregium, Gundlach, in Poey, Mém. vol. ii. p. 13. pl. 1. f. 13.

Chondropoma egregium, Pfeiffer.

Hab. Cuba; Gundlach.

The specimen of this beautiful species here figured is a bright silky orange colour. Dr. Pfeiffer describes a dark violet variety, and there are probably many others.

Species 4. (Mus. Cuming.)

CHONDROPOMA SHUTTLEWORTHII. *Chond. testá clausè umbilicatá, tumido-conicá, subcylindraceá, fulvá, diaphaná, rufescente-fusco interruptè tæniatá, pone labrum radiatá, anfractibus rudè convexis, spiraliter filo-striatis, versus apicem minutè reticulatis; aperturá obliquè ovatá, subsolutá, latissimè fimbriatá, fimbriá fusco-radiatá.*

SHUTTLEWORTH'S CHONDROPOMA. Shell with closed umbilicus, tumidly conical, subcylindrical, fulvous, diaphanous, interruptedly filleted with red-brown, rayed behind the lip, whorls rudely convex, spirally thread-striated, minutely reticulated towards the apex; aperture obliquely ovate, slightly detached, very broadly fimbriated, frill rayed with brown.

Cyclostoma Shuttleworthi, Pfeiffer, Pro. Zool. Soc. 1851, p. 246.

Chondropoma Shuttleworthi, Pfeiffer.

Cyclostoma verecundum, Poey.

Chondropoma verecundum, Pfeiffer.

Hab. Cuba.

This is a very thin semitransparent shell, finely decussately sculptured, but the longitudinal sculpture soon disappears, leaving the spiral sculpture well defined throughout.

Species 5. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA PICTUM. *Chond. testá compressè umbilicatá, oblongo-conicá, parum cylindraceá, fulvo-albidá, diaphaná, punctis ustulato-fuscis promiscuè strigatá, interdum nigro-violaceá, labro aurantio, anfractibus subtumido-convexis, liris tenuibus spiraliter confertim funiculatis; aperturá obliquè ovatá, labro subincrassato, continuo.*

THE PAINTED CHONDROPOMA. Shell compressly umbilicated, oblong conical, but little cylindrical, fulvous-white, diaphanous, promiscuously streaked with burnt-brown dots, sometimes dark violet, with the lip orange, whorls rather tumidly convex, closely spirally corded with fine ridges; aperture obliquely ovate, lip rather thick, continuous.

Cyclostoma pictum, Pfeiffer, Wieg. Arch. für Nat. 1839, vol. i. p. 356.

Cyclostoma Sagra, D'Orbigny.

Cyclostoma Mahogani, Gould.

Chondropoma pictum, Pfeiffer.

Hab. Cuba.

Very definitely and regularly corded throughout, with fine ridges, the interstices between which are not reticulated, but striately punctured. This species has been sometimes mistaken for *C. Weinlandi*, in which the ridged sculpture runs in the opposite direction.

Species 6. (Mus. Cuming.)

CHONDROPOMA HABICHII. *Chond. testá compressè umbilicatá, ovato-conicá, diaphano-albá, ferrugineo tinctá, fusco sparsim punctato-fasciatá, anfractibus subrotundatis, longitudinaliter filo-liratis, liris creberrimis, subfimbriatis; aperturá obliquè ovatá, labro latè calloso-expanso.*

HABICHE'S CHONDROPOMA. Shell compressly umbilicated, ovately conical, diaphanous white, tinged with rust, sparsely dot-banded with brown, whorls rather rounded, longitudinally thread-ridged, ridges very close set, slightly fimbriated; aperture obliquely ovate, lip broadly callously expanded.

WEINLAND, Malak. Blat. 1862.

Hab. Island of Haiti; Weinland.

Sculptured with close-set longitudinal thread-striae of semi-diaphanous substance, like *C. magnificum*, a little fimbriately waved.



Slightly Enlarged.

CHONDROPOMA.

PLATE II.

Species 7. (Fig. 7, 9, Mus. Cuming.)

CHONDROPOMA TENEBROSUM. *Chond. testā modicè umbilicatā, ovato-turritā, ferrugineā vel purpureo-fuscā, obscure punctato-fasciatā, anfractibus rotundatis, dense scabrosè lirato-reticulatis; aperturā circulari, latissimè fimbriatā.*

THE DARK CHONDROPOMA. Shell moderately umbilicated, ovately turreted, rust or purple-brown, obscurely dot-banded, whorls rounded, densely scabrously ridge-reticulated; aperture circular, very broadly fimbriated.

Cyclostoma tenebrosus, Morelet, Test. Noviss. p. 23.

Chondropoma tenebrosus, Pfeiffer.

Cyclostoma claudicans, Pfeiffer.

Hab. Cuba.

The surface of this species is quite scabrous, with a crowded reticulation of thin sharp lamella-like ridges. The specimen represented at Fig. 9 is the type of *C. claudicans*.

Species 8. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA IRRADIANS. *Chond. testā compressè umbilicatā, acuminato-turritā, diaphano-albā, maculis quadratis rufescente-fuscis, quadrifasciatā, anfractibus convexis, minutè scabroso-reticulatis; aperturā parvā, subcirculari, labro latissimè fimbriato, conspicuè radiato.*

THE SHINING CHONDROPOMA. Shell compressly umbilicated, acuminately turreted, diaphanous-white, encircled with four bands of square red-brown spots, whorls convex, minutely scabrously reticulated; aperture small, nearly circular, lip very broadly fimbriated, conspicuously rayed.

Cyclostoma irradians, Shuttleworth, MS.; Pfeiffer, Monog. Pneum. vol. i. p. 294.

Chondropoma irradians, Pfeiffer.

Hab. Cuba.

A beautifully reticulated shell, of delicate subdiaphanous substance, in which the red-brown bands are mostly broken up into square spots.

Species 10. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA SALLEANUM. *Chond. testā compressè umbilicatā, acuminato-turritā, tenuiculā, albā vel pal-*

lidè aurantiā, castaneo-fusco lentiginosā et fasciatā anfractibus declivi-rotundatis, dense lirato-reticulatis, liris ad suturas plicato-auriculatis; aperturā obliquè ovatā, subsolutā, supernè carinatā, labro tenuè reflexo.

SALLE'S CHONDROPOMA. Shell compressly umbilicated, acuminately turreted, rather thin, white or pale orange, freckled and banded with chestnut-brown, whorls slopingly rounded, densely ridge-reticulated, ridges plicately auriculated at the sutures; aperture obliquely ovate, a little detached, keeled at the upper part, lip thinly reflected.

Cyclostoma Salleanum, Pfeiffer, Zeitschr. für Malac. 1850, p. 78.

Chondropoma Salleanum, Pfeiffer.

Hab. Island of Haiti.

A shell of very delicate substance, very elegantly turreted in a sloping manner.

Species 11. (Mus. Cuming.)

CHONDROPOMA LATILABRE. *Chond. testā latè umbilicatā, globoso-turbinatā, diaphano-albā, maculis quadratis ferrugineo-fuscis fasciatā, anfractibus rotundatis, confertim longitudinaliter filo-striatis; aperturā circulari, fauce livido-purpureā, labro latè expanso, albo.*

THE BROAD-LIP CHONDROPOMA. Shell broadly umbilicated, globosely turbinated, diaphanous-white, encircled with bands of square rust-brown spots, whorls rounded, closely longitudinally thread-striated; aperture circular, interior livid-purple, lip broadly expanded, white.

Cyclostoma latilabris, D'Orbigny, Moll. Cuba, vol. i. p. 225. pl. 21. f. 12.

Choanapoma latilabre, Gray.

Chondropoma latilabre, Pfeiffer.

Hab. Cuba.

Distinguished by the tubular form of the whorls and by their globose manner of turbination, leaving a large central umbilicus.

Species 12. (Mus. Cuming.)

CHONDROPOMA GLABRATUM. *Chond. testā imperforatā, oblongo-cylindraceutā, fulvescente, castaneo-fusco fasciatā et vittatā, anfractibus tumido-convexis, liris tenuibus*

glabris spiraliter funiculatis; aperturâ obliquè ovatâ, labro simplici.

THE SMOOTH CHONDROPOMA. Shell imperforate, oblong-cylindrical, fulvous, banded and filleted with chestnut-brown, whorls tumidly convex, spirally corded with fine smooth ridges; aperture obliquely ovate, lip simple.

WEINLAND, Malak. Blat. 1862.

Hab. Bahamas.

Of a rather tumid oblong form, encircled throughout with fine smooth cord-like ridges.

Species 13. (Mus. Cuming.)

CHONDROPOMA VIOLACEUM. *Chond. testâ compressè umbilicatâ, ovato-turritâ, violaceâ vel ferrugineo-tinctâ, fusco obscurè strigatâ, anfractibus convexis, densissimè scabroso-reticulatis; aperturâ ovatâ, parviusculâ, labro scabroso-reflexo, albo.*

THE VIOLET CHONDROPOMA. Shell compressly umbilicated, ovately turreted, violet or rust-tinged, obscurely streaked with brown, whorls convex, very densely scabrously reticulated; aperture ovate, rather small, lip scabrously reflected, white.

Cyclostoma violaceum, Pfeiffer, Pro. Zool. Soc. 1851, p. 245.

Tudora violacea, Pfeiffer.

Cistula violacea, Adams.

Chondropoma violaceum, Pfeiffer.

Hab. Cuba.

The surface of this species is remarkably closely reticulated with erect lamella-like striæ.

Species 14. (Mus. Cuming.)

CHONDROPOMA MÆSTUM. *Chond. testâ compressè umbilicatâ, cylindræo-ovatâ, diaphano-albâ, inter liras rufo-fusco articulatâ, anfractibus tumido-convexis, liris confertis funiculatis; aperturâ obliquè ovatâ, supernè subcarinatâ, labro parum reflexo.*

THE SAD CHONDROPOMA. Shell compressly umbilicated, cylindrically ovate, diaphanous-white, articulated with red-brown between the ridges, whorls tumidly convex, corded with close-set ridges; aperture obliquely ovate, slightly keeled at the top, lip but little reflected.

Cyclostoma mæstum, Shuttleworth, Pfeiffer, Malak. Blat. 1854, p. 97.

Cyclostoma Poeyanum, Pfeiffer (not of D'Orbigny).

Chondropoma Poeyanum, Pfeiffer.

Cyclostoma Hellenicum, Gray.

Cyclostoma Charpentieri, Shuttleworth.

Chondropoma mæstum, Pfeiffer.

Hab. Cuba.

Well distinguished by the colouring being in the interstices between the corded ridges.



15.



16a.



16b.



17.



18.



19.



20.



21.



22.



23.

Slightly Enlarged.

CHONDROPOMA.

PLATE III.

Species 15. (Mus. Cuming.)

CHONDROPOMA POEYANUM. *Chond. testā compressè umbilicatā, oblongo-cylindrāceā, solidiusculā, albidā, anfractibus convexis, spiraliter confertim filo-liratis; aperturā obliquè ovatā, supernè subcarinatā, labro parum reflexo.*

POEY'S CHONDROPOMA. Shell compressly umbilicated, oblong cylindrical, rather solid, whitish, whorls convex, spirally closely thread-ridged; aperture obliquely ovate, slightly keeled at the upper part, lip but little reflected.

Cyclostoma Poeyanum, D'Orbigny, Moll. Cub. p. 264. pl. 22. f. 24 to 27.

Chondropoma Poeyanum, Pfeiffer.

Hab. Cuba.

A simple uncoloured corded shell, supposed at one time to be the *Turbo elongatus* of Wood.

Species 16. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA NEWCOMBIANUM. *Chond. testā compressè umbilicatā, subacuminato-turritā, fulvescente, purpureo-castaneo variè punctato-fasciatā et lentiginosā, anfractibus rotundatis, longitudinaliter densè filo-striatis et hic illic plicatis, plicis ad suturas auriculatis; aperturā parvā, fere circulari, dissolutā, supernè carinatā, labro simplici.*

NEWCOMB'S CHONDROPOMA. Shell compressly umbilicated, rather acuminately turreted, fulvous, variously dot-banded and freckled with purple chestnut, whorls rounded, longitudinally densely thread-striated, and here and there plicated, plaits auriculated at the sutures; aperture small, nearly circular, detached, keeled at the upper part, lip simple.

Cyclostoma Newcombianum, Adams.

Cyclostoma Troscheli, Pfeiffer.

Cyclostoma Swiftianum, Newcomb.

Chondropoma Newcombianum, Pfeiffer.

Hab. Island of St. Thomas, West Indies.

An elegantly-turreted prettily-freckled shell, which, in addition to the close-set thread-like striæ, is sculptured with occasional plaits, which appear as crenules in the sutures.

Species 17. (Mus. Cuming.)

CHONDROPOMA JUCUNDUM. *Chond. testā compressè umbilicatā, ovato-turritā, rubicundo-aurantiā, tenui, semipellucidā, anfractibus rotundatis, striis filiformibus, in suturas hic illic auriculatis, confertim reticulatis; aperturā obliquè ovatā, labro sublatè reflexo.*

THE PLEASANT CHONDROPOMA. Shell compressly umbilicated, ovately turreted, ruddy orange, thin, semitransparent, whorls rounded, closely reticulated with thread-like striæ, here and there auriculated in the sutures; aperture obliquely ovate, lip rather broadly reflected.

Cyclostoma jucundum, Pfeiffer, Pro. Zool. Soc. 1852, p. 66.

Hab. — ?

An extremely delicate transparent shell, of a peculiar ruddy orange, closely reticulated throughout.

Species 18. (Mus. Cuming.)

CHONDROPOMA HEMIOTUM. *Chond. testā compressè umbilicatā, oblongo-turritā, albidā, fusco minutè punctulatā, ad basin fasciatā, anfractibus convexis, striis filiformibus ad suturas auriculatis, confertim decussatis, quarum spiralibus fere obsoletis; aperturā obliquè ovatā, subsolutā, supernè carinatā, labro subreflexo.*

THE DOTTED CHONDROPOMA. Shell compressly umbilicated, oblong turreted, whitish, minutely dotted with brown, banded at the base, whorls convex, closely decussated with thread-like striæ, auriculated at the sutures, of which the spiral are nearly obsolete; aperture obliquely ovate, a little detached, keeled at the upper part, lip slightly reflected.

PFEIFFER, Pro. Zool. Soc. 1852, p. 143.

Hab. Island of Haiti; Sallé.

In this species, encircled by a chestnut band, which is only seen in the last whorl, the spiral striæ of the decussating sculpture are nearly obsolete.

Species 19. (Mus. Cuming.)

CHONDROPOMA BLAUNERI. *Chond. testā compressè umbilicatā, ovato-turritā, tenuiculā, violaceo-fuscā, strigis undulatis fasciisque castaneis obscure pictā, anfracti-*

bus declivi-convexis, longitudinaliter minutè filo-striatis, striis ad suturas auriculatis; aperturâ obliquè ovatâ, supernè carinatâ, labro vix reflexo.

BLAUNER'S CHONDROPOMA. Shell compressly umbilicated, ovately turreted, rather thin, violet-brown, obscurely marked with chestnut-brown waved streaks and bands, whorls slopingly convex, minutely longitudinally thread-striated, striæ auriculated at the sutures; aperture obliquely ovate, keeled at the upper part, lip scarcely reflected.

Cyclostoma Blauneri, Shuttleworth, Diag. Moll. No. 7. p. 151.

Hab. Island of Porto Rico.

Of a peculiar swarthy violet-brown, obscurely painted with chestnut neatly-waved streaks and bands.

Species 20. (Mus. Cuming.)

CHONDROPOMA PLICATULUM. *Chond. testâ compressè umbilicatâ, subacuminato-turritâ, diaphano-albâ, castaneo-fusco interruptè strigatâ et fasciatâ, anfractibus rotundatis, longitudinaliter densè filo-liratis; aperturâ obliquè circulari, subsolutâ, supernè carinatâ, labro vix reflexo.*

THE FINELY-PLAITED CHONDROPOMA. Shell compressly umbilicated, rather acuminately turreted, diaphanous-white, interruptedly streaked and banded with chestnut-brown, whorls rounded, longitudinally densely thread-ridged; aperture obliquely circular, a little detached, keeled at the upper part, lip scarcely reflected.

Cyclostoma plicatulum, Pfeiffer, Zeitschr. für Malac. 1846, p. 48.

Chondropoma plicatulum, Pfeiffer.

Hab. Venezuela.

Rather more slenderly tubularly turreted than any of the previous species, painted with chestnut bands and streaks in a very characteristic interrupted manner.

Species 21. (Mus. Cuming.)

CHONDROPOMA SWIFTI. *Chond. testâ compressè umbilicatâ, ovato-conicâ, albidâ, rufo-fusco copiosè punctato-fasciatâ, anfractibus convexis, longitudinaliter densè filo-liratis, liris ad suturas hic illic auriculatis; aperturâ obliquè ovatâ, supernè carinatâ, labro tenui, vix reflexo.*

SWIFT'S CHONDROPOMA. Shell compressly umbilicated,

ovately conical, whitish, copiously dot-banded with red-brown, whorls convex, longitudinally closely thread-ridged, ridges here and there auriculated at the sutures; aperture obliquely ovate, keeled at the upper part, lip thin, scarcely reflected.

Cyclostoma Swifti, Shuttleworth, Diag. Moll. n. 7. p. 151.

Hab. Porto Rico; Swift.

A thin semidiaphanous shell, copiously encircled with bands of pale red-brown dots.

Species 22. (Mus. Cuming.)

CHONDROPOMA OTTONIS. *Chond. testâ compressè umbilicatâ, ovato-conicâ, sordidè albâ, subdiaphanâ, pallidè fuscescente obscure fasciatâ, anfractibus rotundatis, minutè scabroso-decussatis; aperturâ parviusculâ, rotundatâ, latè fimbriatâ.*

OTTO'S CHONDROPOMA. Shell compressly umbilicated, ovately conical, dull-white, subdiaphanous, faintly banded with light-brown, whorls rounded, minutely scabrously decussated; aperture rather small, rounded, broadly fimbriated.

Cyclostoma Ottonis, Pfeiffer, Zeitschr. für Malak. 1846, p. 45.

Chondropoma Ottonis, Pfeiffer.

Cyclostoma petricosum, Morelet.

Hab. Cuba.

A dull obscurely-banded shell, of scabrous surface, the whorls being rather tubular.

Species 23. (Mus. Cuming.)

CHONDROPOMA OBESUM. *Chond. testâ compressè umbilicatâ, oblongo-conicâ, fulvo-luteâ vel rubicundâ, anfractibus rotundatis, liris filiformibus cingulatis, liris striis minutis scabrosis longitudinaliter decussatis; aperturâ parvâ, obliquè ovatâ, labro simplici.*

THE STOUT CHONDROPOMA. Shell compressly umbilicated, oblong-conical, fulvous yellow or ruddy, whorls rounded, encircled with thread-like ridges, ridges crossed longitudinally by minute scabrous striæ; aperture small, obliquely ovate, lip simple.

Truncatella obesa, Menke, Syn. ed. 2. p. 137.

Cyclostoma obesum, Pfeiffer.

Chondropoma obesum, Pfeiffer.

Hab. Cuba.

A very delicate ruddy fulvous shell, most exquisitely sculptured with minute scabrous striæ.



24r.



25b.



25a.



26.



27b.



27a.



28.



30.



29.



31.

Slightly Enlarged.

CHONDROPOMA.

PLATE IV.

Species 24. (Mus. Cuming.)

CHONDROPOMA CORDOVANUM. *Chond. testā compressè umbilicatā, turritā, pallidè fulvā, fasciis castaneis interruptis longitudinalibus tinctā, anfractibus rotundatis, densè longitudinaliter filo-striatis; aperturā circulari, parviusculā, labro scabroso-fimbriato.*

THE CORDOVA CHONDROPOMA. Shell compressly umbilicated, turreted, pale fulvous, stained with interrupted longitudinal chestnut bands, whorls rounded, densely longitudinally thread-striated; aperture circular, rather small, lip scabrously fimbriated.

PFEIFFER, Pro. Zool. Soc. 1856, p. 323.

Hab. Cordova, Vera Cruz, Mexico; Sallé.

A rather slenderly turreted species, imperfectly marked with interrupted longitudinal chestnut bands.

Species 25. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA INTEGRUM. *Chond. testā compressè umbilicatā, turritā, fulvā, lineis fuscis longitudinaliter undulatis notatā, ad basin latifasciatā, anfractibus convexis, densè decussatim filatis, ad suturas crenatis; aperturā circulari, parviusculā, labro fimbriato.*

THE ENTIRE CHONDROPOMA. Shell compressly umbilicated, turreted, fulvous, marked with brown longitudinally waved lines, broad-banded at the base, whorls convex, closely decussately threaded, crenated at the sutures; aperture circular, rather small, lip fimbriated.

Cyclostoma integrum, Pfeiffer, Pro. Zool. Soc. 1851, p. 247.

Chondropoma integrum, Pfeiffer.

Hab. West Indies.

Very prettily painted throughout with delicate longitudinal brown lines, waved with great regularity.

Species 26. (Mus. Cuming.)

CHONDROPOMA LITTURATUM. *Chond. testā compressè umbilicatā, cylindraceo-turritā, albidā, purpureo punctato-fasciatā et lentiginosā, anfractibus declivi-convexis, undique reticulato-granosis, ad suturas crenatis; aperturā obliquè ovatā, parvā, dissolutā, labro simplici, vix reflexo.*

THE BLOTTED CHONDROPOMA. Shell compressly umbi-

licated, cylindrically turreted, whitish, dot-banded and freckled with purple, whorls slopingly convex, reticulately grained throughout, crenated at the sutures; aperture obliquely ovate, small, detached, lip simple, scarcely reflected.

Cyclostoma litturatum, Pfeiffer, Zeitschr. für Malac. 1850, p. 78.

Chondropoma litturatum, Pfeiffer.

Hab. Island of Haiti; Sallé.

The sculpture of this species is a fine thimble-like grain, the colour a copious sprinkling of minute purple dots, disposed at the sutures in small flames and at the base in a band.

Species 27. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA DISSOLUTUM. *Chond. testā compressè umbilicatā, fulvā, turritā, lineis ferrugineis longitudinaliter undulatā, ad basin fasciatā, anfractibus declivi-convexis, longitudinaliter densè filo-striatis; aperturā circulari, dissolutā, supernè carinatā, modicè fimbriatā.*

THE DETACHED CHONDROPOMA. Shell compressly umbilicated, turreted, fulvous, longitudinally waved with rust-lines, banded at the base, whorls slopingly convex, longitudinally densely thread-striated; aperture circular, detached, keeled at the upper part, moderately fimbriated.

PFEIFFER, Malak. Blat. 1854, p. 158.

Hab. Cuba.

This species is probably a variety of *C. integrum*.

Species 28. (Mus. Cuming.)

CHONDROPOMA RUDE. *Chond. testā compressè umbilicatā, solidiusculā, aurantio-carneā, ad apicem rosaceā, intus rufo-aurantiā, anfractibus declivi-convexis, spiralliter liratis, longitudinaliter densè subtilissimè filo-striatis, subscabrosis; aperturā obliquè ovatā, dissolutā, supernè carinatā, labro calloso, vix reflexo.*

THE RUDE CHONDROPOMA. Shell compressly umbilicated, rather solid, orange-flesh, pink at the apex, reddish-orange within, whorls slopingly convex, spirally ridged, longitudinally densely very finely thread-striated, rather scabrous; aperture obliquely ovate,

detached, keeled at the upper part, lip callous, scarcely reflected.

WEINLAND, Malak. Blat. 1862.

Hab. Bahama Islands.

Very distinct from any of the preceding species, but of precisely the same generic type. It is of rather solid growth and very characteristic in colour—a bright flesh-orange, without any marking, pink towards the apex, orange-red in the interior.

Species 29. (Mus. Cuming.)

CHONDROPOMA ANGUSTATUM. *Chond. testā compressè umbilicatā, subangustè turritā, fulvā, maculis lineari-bus purpureo-castaneis fasciatā, anfractibus convexis reticulatim filo-liratis, ad suturas auriculato-crenatis; aperturā parvā, obliquè circulari, labro subreflexo.*

THE NARROWED CHONDROPOMA. Shell rather narrowly turreted, fulvous, banded with linear blotches of purple-chestnut, whorls convex, reticulately thread-ridged, auriculately crenated at the sutures; aperture small, obliquely circular, lip a little reflected.

PFEIFFER, Pro. Zool. Soc. 1854, p. 128.

Hab. —?

The habit of *C. angustatum* is not known, but there can be little doubt of its being a West Indian species.

Species 30. (Mus. Cuming.)

CHONDROPOMA PERLATUM. *Chond. testā compressè umbilicatā, subangustè turritā, margaritaceā, diaphanā, maculis fuscis inter liras strigatā, anfractibus rotundatis, liris tenuibus nitidè spiraliter funiculatis; aperturā obliquè ovatā, scabroso-fimbriatā.*

THE BROUGHT CHONDROPOMA. Shell compressly umbilicated, rather narrowly turreted, nearly white, diaphanous, streaked with brown spots between the ridges, whorls rounded, neatly spirally corded with fine ridges; aperture obliquely ovate, scabrously fimbriated.

Cyclostoma perlatum, Gundlach, Malak. Blat. 1857, p. 41.

Chondropoma perlatum, Pfeiffer.

Hab. Cuba.

An extremely delicate shining diaphanous shell, stringed transversely with very fine pellucid ridges.

Species 31. (Mus. Cuming.)

CHONDROPOMA TORTOLENSE. *Chond. testā compressè umbilicatā, ovato-turritā, albidā, maculis rufo-fuscis inter liras sparsim strigatā, anfractibus rotundatis, ad suturas minutè crenulatis, liris tenuibus spiraliter funiculatis, in interstitiis puncturatis; aperturā obliquè ovatā, subdissolutā, supernè carinatā, labro simplici, vix reflexo.*

THE TORTOLA CHONDROPOMA. Shell compressly umbilicated, ovately turreted, whitish, sparsely streaked with red-brown spots between the ridges, whorls rounded, minutely crenulated at the sutures, spirally corded with fine ridges, punctured in the interstices; aperture obliquely ovate, a little detached, keeled at the upper part, lip simple, scarcely reflected.

PFEIFFER, Malak. Blat. 1857, p. 158.

Hab. Island of Tortola.

The sculpture and marking of this shell is not much unlike that of the preceding, but coarser and more opaque. The lip is of quite another character, not being fimbriated.

Chondropoma Pl. V.



32.



33.



34.



35.



36a.



36b.



37.



38a.



38b.



39.

Sowerby, del. et lith.

(Slightly Enlarged.)

Vincent. Brooks, Imp.

CHONDROPOMA.

PLATE V.

Species 32. (Mus. Cuming.)

CHONDROPOMA DIAPHANUM. *Chond. testâ compressè umbilicatâ, oblongo-turritâ, candidâ, anfractibus convexis, subangustis, pulcherrimè reticulatim filo-striatis, ad suturas promiscuè crenulatis; aperturâ obliquè circulari, dissolutâ, subfimbriatâ.*

THE DIAPHANOUS CHONDROPOMA. Shell compressly umbilicated, oblong-turreted, white, whorls convex, rather narrow, beautifully reticulately thread-striated, promiscuously crenulated at the sutures; aperture obliquely circular, detached, slightly fimbriated.

Cyclostoma diaphanum, Pfeiffer, Pro. Zool. Soc. 1851.

Chondropoma diaphanum, Pfeiffer.

Hab. — ?

A pure white *Scalaria*-like shell, exquisitely reticulately sculptured with thread-striæ.

Species 33. (Mus. Cuming.)

CHONDROPOMA DELATREANUM. *Chond. testâ compressè umbilicatâ, subangustè turritâ, fulvâ, purpureo-castaneo strigatâ et fasciatâ, anfractibus modicè convexis, densè reticulatim filo-striatis, ad suturas conspicuè crenulatis; aperturâ parvâ, obliquè circulari, labro fimbriato, radiato.*

DELATRE'S CHONDROPOMA. Shell compressly umbilicated, rather narrowly turreted, fulvous, streaked and banded with purple-chestnut, whorls moderately convex, closely reticulately thread-striated, conspicuously crenulated at the sutures; aperture small, obliquely circular, lip fimbriated, rayed.

Cyclostoma Delatreanum, D'Orbigny, Moll. Cub. p. 262.

Chondropoma Delatreanum, Pfeiffer.

Hab. Cuba.

A rather narrowly turreted shell, neatly reticulately sculptured and conspicuously cross-banded.

Species 34. (Mus. Cuming.)

CHONDROPOMA PETITIANUM. *Chond. testâ compressè umbilicatâ, angustè turritâ, sericeo-fulvâ, pallidè rufo-fusco lentiginosâ, anfractibus convexis, densè longitudinaliter filo-striatis, striis hic illic partim opaco-*

albis; aperturâ parvâ, obliquè circulari, labro fimbriato, conspicuè radiato.

PETIT'S CHONDROPOMA. Shell compressly umbilicated, narrowly turreted, silky-fulvous, freckled with pale red-brown, whorls convex, densely longitudinally thread-striated, striæ here and there partially opaque-white; aperture small, obliquely circular, lip fimbriated, conspicuously rayed.

Cyclostoma Petitianum, Pfeiffer, Zeitschr. für Malac. 1850, p. 78.

Chondropoma Petitianum, Pfeiffer.

Hab. Island of Haiti; Sallé.

A bright transparent silky fulvous shell, freckled with red-brown, in which the longitudinal thread-striæ have a partially opaque-white aspect, as seen in some of the *Clausiliæ*.

Species 35. (Mus. Cuming.)

CHONDROPOMA PFEIFFERIANUM. *Chond. testâ modicè umbilicatâ, oblongo-turritâ, sordidè albidâ, rufo-fusco inter liras strigatâ, anfractibus declivi-convexis, undique spiraliter filo-liratis, versus apicem minutè obliquè striatis; aperturâ obliquè ovatâ, supernè carinatâ, labro vix reflexo.*

PFEIFFER'S CHONDROPOMA. Shell moderately umbilicated, oblong turreted, dull white, streaked between the ridges with red-brown, whorls slopingly convex, spirally thread-ridged throughout, minutely obliquely striated towards the apex; aperture obliquely ovate, keeled at the upper part, lip scarcely reflected.

Cyclostoma Pfeifferianum, Poey, Mem. p. 419.

Chondropoma Pfeifferianum, Pfeiffer.

Hab. Cuba.

The longitudinal striæ of this species, which are somewhat crowded towards the apex, do not cross the spiral ridges, but appear only in the interstices.

Species 36. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA CUMANENSE. *Chond. testâ angustè umbilicatâ, oblongo-turritâ, pellucido-fulvâ, castaneo interruptè strigatâ et fasciatâ, anfractibus declivi-convexis, longitudinaliter densè filo-liratis; aperturâ obliquè circulari, parvâ, labro vix reflexo.*

January, 1863.

THE CUMANA CHONDROPOMA. Shell narrowly umbilicated, oblong-turreted, transparent fulvous, interruptedly streaked and banded with chestnut, whorls slopingly convex, longitudinally densely thread-ridged; aperture obliquely circular, small, lip scarcely reflected.

Cyclostoma Cumanense, Pfeiffer, Pro. Zool. Soc. 1851.

Chondropoma Cumanense, Pfeiffer.

Hab. Cumana, Venezuela; Dyson.

An extremely pretty species, of bright diaphanous fulvous substance, richly stained with interrupted bands and streaks of chestnut.

Fig. 37. (Mus. Cuming.)

The shell here figured proves to be a variety, more distinctly coloured, of *C. Poeyanum*, represented at Plate III. Fig. 15.

Species 38. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA DENTATUM. *Chond. testā compressè umbilicatā, fulvā, maculis rufo-fuscis parvis equidistantibus, tessellatā, anfractibus convexis, densè granoso-reticulatis, ad suturas dentato-crenatis; aperturā parvā, obliquè circulari, labro fimbriato-reflexo, radiato.*

THE TOOTHED CHONDROPOMA. Shell compressly umbilicated, fulvous, tessellated with small equidistant red-brown spots, whorls convex, densely granosely reticulated, dentately crenated at the sutures; aper-

ture small, obliquely circular, lip fimbriately reflected, rayed.

Cyclostoma dentatum, Say, Philad. Journ. vol. v. p. 125.

Cyclostoma lineolatum, Anton.

Cyclostoma Auberianum, D'Orbigny.

Cyclostoma lunulatum, Morch.

Chondropoma dentatum, Pfeiffer.

Hab. Cuba and Florida, United States.

The sutural crenulations of this species are unusually prominent, having the appearance of teeth.

Species 39. (Mus. Cuming.)

CHONDROPOMA RUFO-PICTUM. *Chond. testā vix umbilicatā, ovato-conicā, subventricosā, fulvā, rufo-castaneo lineari-fasciatā, anfractibus declivi-convexis, longitudinaliter plicato-striatis, striis subdistantibus, irregularibus; aperturā obliquè ovatā, labro parum reflexo.*

THE RED-PAINTED CHONDROPOMA. Shell scarcely umbilicated, ovately conical, rather ventricose, fulvous, linearly banded with reddish-chestnut, whorls slopingly convex, longitudinally plicately striated, striæ rather distant, irregular; aperture obliquely ovate, lip but little reflected.

GUNDLACH, MS. in Mus. Cuming.

Hab. Cuba.

A rather ventricose species, in which the longitudinal thread-like striæ assume the form of promiscuous rather distant folds.



41.



40.



42.



43.



44a.



44b.



45.



46a.



46b.



47.

(Slightly Enlarged.)

CHONDROPOMA.

PLATE VI.

Species 40. (Mus. Cuming.)

CHONDROPOMA CANDEANUM. *Chond. testâ vix umbilicatâ, oblongo-turritâ, rufescente-fulvâ, anfractibus convexis, validè densè filo-reticulatis; aperturâ obliquè ovatâ, labro subfimbriato.*

THE CANDE CHONDROPOMA. Shell scarcely umbilicated, oblong-turreted, reddish fulvous, whorls convex, strongly closely thread-reticulated; aperture obliquely ovate, lip slightly fimbriated.

Cyclostoma Candeanum, D'Orbigny, Moll. Cuba, p. 261. pl. 22. f. 15 to 17.

Cyclostoma truncatum, Pfeiffer.

Cistula truncata, Gray.

Cistula Candeanâ, Pfeiffer.

Chondropoma Candeanum, Pfeiffer.

Hab. Cuba.

A rather stout reddish-fulvous shell, with the surface very strongly finely reticulated.

Species 41. (Mus. Cuming.)

CHONDROPOMA PUNCTICULATUM. *Chond. testâ compressè umbilicatâ, ovato-oblongâ, candidâ, punctis parvis rufo-fuscis tessellatâ, anfractibus convexis, nitidè densè filo-reticulatis; aperturâ parvâ, obliquè circulari, subdissolutâ, supernè carinatâ, labro subreflexo.*

THE FINELY-DOTTED CHONDROPOMA. Shell compressly umbilicated, ovately oblong, white, tessellated with small red-brown dots, whorls convex, neatly closely thread-reticulated; aperture small, obliquely circular, a little detached, keeled at the upper part, lip somewhat reflected.

PFEIFFER, Pro. Zool. Soc. 1854, p. 128.

Hab. West Indies.

A strongly finely reticulated white shell, tessellated with distant small red-brown dots.

Species 42. (Mus. Cuming.)

CHONDROPOMA SIMPLEX. *Chond. testâ minutè compressè umbilicatâ, ovato-oblongâ, fulvescente-albâ, subdiaphanâ, maculis rufescente-fuscis in seriebus longitudinalibus pictâ, anfractibus tumido-convexis, validè densè*

filo-reticulatis; aperturâ parvâ, obliquè ovatâ, labro simplici.

THE SIMPLE CHONDROPOMA. Shell minutely compressly umbilicated, ovately oblong, fulvous white, somewhat diaphanous, painted with longitudinal rows of red-brown spots, whorls tumidly convex, strongly densely thread-reticulated; aperture small, obliquely ovate, lip simple.

PFEIFFER, Pro. Zool. Soc. 1852.

Hab. Island of Haiti; Sallé.

The surface sculpture of this species has a beautifully delicate pearly aspect.

Species 43. (Mus. Cuming.)

CHONDROPOMA ABNATUM. *Chond. testâ minutè compressè umbilicatâ, oblongo-turritâ, solidiusculâ, sordidè albâ, anfractibus declivi-convexis, subtiliter scabroso-reticulatis, ad suturas canaliculatis et crenulatis; aperturâ parvâ, obliquè circulari, labro auriculato-fimbriato.*

THE ABNATE CHONDROPOMA. Shell minutely compressly umbilicated, oblong-turreted, rather solid, dead-white, whorls slopingly convex, finely scabrously reticulated, channelled and crenulated at the sutures; aperture small, obliquely circular, lip auriculately fimbriated.

GUNDLACH, MS. in Mus. Cuming.

Hab. Cuba.

This is the first species in which the suture is distinctly channelled throughout.

Species 44. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA LOWEANUM. *Chond. testâ compressè umbilicatâ, subventricosò-ovatâ, albidâ, pallidè fusco marmoratâ et strigatâ, ad basin fasciatâ, anfractibus tumido-convexis, longitudinaliter pulcherrimè densè filo-striatis; aperturâ obliquè ovatâ, dissolutâ, supernè carinatâ et crenulatâ, labro vix reflexo.*

LOWE'S CHONDROPOMA. Shell compressly umbilicated, somewhat ventricosely ovate, white, marbled and streaked with pale-brown, banded at the base, whorls tumidly convex, longitudinally very beautifully densely thread-striated; aperture obliquely ovate, detached,

keeled and crenulated at the upper part, lip scarcely reflected.

PFEIFFER, Pro. Zool. Soc. 1852.

Hab. Island of Haiti; Sallé.

An exquisitely sculptured species, more ovately ventricose than any which has preceded it.

Species 45. (Mus. Cuming.)

CHONDROPOMA VENEZUELENSE. *Chond. testâ modicè umbilicatâ, acuminato-turritâ, ustulato-fulvâ, rufo-fusco interruptè lineari-fasciatâ, anfractibus convexis, longitudinaliter densè filo-striatis; aperturâ circulari-ovatâ, labro patente-expanso.*

THE VENEZUELA CHONDROPOMA. Shell moderately umbilicated, acuminate-turreted, swarthy fulvous, interruptedly linearly banded with red-brown, whorls convex, longitudinally densely thread-striated; aperture circularly ovate, lip openly expanded.

PFEIFFER, Pro. Zool. Soc. 1853, p. 52.

Hab. Venezuela.

A thin acuminate-turreted shell, of swarthy hue, in which the aperture is openly expanded at the margin.

Species 46. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA REVINCTUM. *Chond. testâ compressè umbilicatâ, oblongo-turritâ, livido-fuscescente, maculis punctisque opaco-albis, purpureo-umbratis, cingulatâ et lentiginosâ, anfractibus convexis, densè filo-reticulatis, ad suturas crenulatis; aperturâ circulari, labro subfimbriato.*

THE BOUND CHONDROPOMA. Shell compressly umbilicated, oblong-turreted, livid brown, encircled and freckled with purple-shaded opaque-white spots and dots, whorls convex, closely thread-reticulated, crenulated at the sutures; aperture circular, lip slightly fimbriated.

Cyclostoma revinctum, Poey, Mem. p. 99. pl. 5. ff. 24 to 27.

Chondropoma revinctum, Pfeiffer.

Hab. Cuba.

Painted with very characteristic purple-shaded opaque-white spots and dots upon a dingy fuscous ground.

Species 47. (Mus. Cuming.)

CHONDROPOMA RUBICUNDUM. *Chond. testâ vix umbilicatâ, acuminato-turritâ, solidiusculâ, pellucidâ, vinoso-rubicundâ, anfractibus rotundatis, striis filiformibus annulatis; aperturâ circulari, labro fimbriato, intense roseo.*

THE BUDDY CHONDROPOMA. Shell scarcely umbilicated, acuminate-turreted, rather solid, transparent, vinous-red, whorls rounded, ringed with thread-like striæ; aperture circular, lip fimbriated, deep rose-colour.

Cyclostoma rubicundum, Morelet, Test. Noviss. p. 22.

Chondropoma rubicundum, Pfeiffer.

Hab. Vera Paz, Guatemala.

This Guatemala species is of quite a distinct type from any other. The shell, though solid, is of a rich subgelatinous transparency, of a vinous-red colour, while the fimbriated lip is a deep crimson-rose.

Chondropoma Pl. VII.



49.a.



48.



49.b.



50.



51.a.



51.b.



52.



53.



54.



55.

(Slightly Enlarged.)

CHONDROPOMA.

PLATE VII.

Species 48. (Mus. Cuming.)

CHONDROPOMA ARGUTUM. *Chond. testâ minutè compressè umbilicatâ, angustè turritâ, solidiusculâ, sordidè albâ, anfractibus convexis, conspicuè spiraliter carinato-costatis, interstitiis excavatis; aperturâ parvâ, circulari, subdissolutâ, labro simplici.*

THE NEAT CHONDROPOMA. Shell minutely compressly umbilicated, narrowly turreted, rather solid, dead-white, whorls convex, conspicuously spirally keel-ribbed, with the interstices excavated; aperture small, circular, a little detached, lip simple.

PFEIFFER, Monog. Pneum. Suppl. 1. p. 138.

Hab. — ?

This shell is of quite a distinct type. The sculpture is like that of a sea shell, strong encircling keel ribs, excavated in the interstices like those of many species of *Pleurotoma*.

Species 49. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA CRENULATUM. *Chond. testâ compressè umbilicatâ, oblongo-turritâ, fulvâ, ustulato-castaneo variè strigatâ et nebulatâ, anfractibus convexis, longitudinaliter scabrosè filo-striatis, ad suturas crenulatis; aperturâ obliquè circulari, labro tenui, subexpanso.*

THE CRENULATED CHONDROPOMA. Shell compressly umbilicated, oblong-turreted, fulvous, variously streaked and clouded with burnt chestnut, whorls convex, longitudinally scabrously thread-striated, crenulated at the sutures; aperture obliquely circular, lip thin, a little expanded.

Cyclostoma crenulatum, Férussac, Pot. et Mich. Gal. Douai, vol. i. p. 235. pl. 24. ff. 3, 4.

Cyclostoma nodulosum, Gray.

Cyclostoma Guadaloupense, Pfeiffer.

Chondropoma Guadaloupense, Pfeiffer.

Chondropoma crenulatum, Pfeiffer.

Hab. Guadaloupe; Petit.

A swarthy clouded shell, in which the sutural crenulations are white, and therefore rather conspicuous.

Species 50. (Mus. Cuming.)

CHONDROPOMA SANTACRUZENSE. *Chond. testâ compressè umbilicatâ, oblongo-turritâ, tenuiculatâ, aurantio-*

rubellâ, castaneo minutè punctato-fasciatâ, anfractibus convexis, subventricosis, densè scabrosè lamelli-striatis; aperturâ obliquè circulari, labro tenui, subexpanso.

THE SANTA CRUZ CHONDROPOMA. Shell completely umbilicated, oblong-turreted, rather thin, orange-red, minutely dot-banded with chestnut, whorls convex, slightly ventricose, closely scabrously lamella-striated; aperture obliquely circular, lip thin, a little expanded.

PFEIFFER, Malak. Blat. 1855, p. 101.

Hab. Island of Santa Cruz, West Indies.

Beautifully sculptured with a close succession of longitudinal lamella-like striæ, sharp and scabrous at the edge.

Species 51. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA TEXTUM. *Chond. testâ compressè umbilicatâ, conico-turritâ, solidiusculâ, pallidè stramineâ, sparsè obscurè rufo-punctatâ, anfractibus declivi-convexis, densè reticulatim filo-striatis, ad suturas crenulatis; aperturâ circulari-ovatâ, labro calloso-fimbriato.*

THE WOVEN CHONDROPOMA. Shell compressly umbilicated, conically turreted, rather solid, pale straw-colour, sparsely obscurely red-dotted, whorls slopingly convex, closely reticulately thread-striated, crenulated at the sutures; aperture circularly ovate, lip callously fimbriated.

GUNDLACH, Malak. Blat. 1862.

Hab. Cuba.

A very characteristic straw-coloured shell, of rather solid growth, with a prominent callously fimbriated aperture.

Species 52. (Mus. Cuming.)

CHONDROPOMA TURRITUM. *Chond. testâ compressè umbilicatâ, acuminato-turritâ, fulvâ, fasciis rufo-fuscis linearibus interruptis cinctâ, anfractibus rotundatis, minutè reticulatim filo-striatis, ad suturas crenulatis; aperturâ obliquè circulari, labro tenui, subexpanso.*

THE TURRETED CHONDROPOMA. Shell compressly umbilicated, acuminate-turreted, fulvous, encircled with interrupted linear red-brown bands, whorls rounded, minutely reticulately thread-striated, crenulated at

the sutures; aperture obliquely circular, lip thin, a little expanded.

Cyclostoma turritum, Pfeiffer, Pro. Zool. Soc. 1851.

Chondropoma turritum, Pfeiffer.

Hab. Honduras; Dyson.

Of an obvious acuminate turreted form, with the characteristic net-sculpture of the genus unusually finely woven.

Species 53. (Mus. Cuming.)

CHONDROPOMA REVOCATUM. *Chond. testâ modicè umbilicatâ, globoso-conicâ, flavescens, versus apicem carneâ, punctis rufis obscurè radiatâ, anfractibus rotundatis, spiraliter granoso-scabrosè filo-striatis; aperturâ pyriformi-ovatâ, subamplâ, labro tenuè expanso.*

THE RECALLED CHONDROPOMA. Shell moderately umbilicated, globosely conical, yellowish, flesh-tinged towards the apex, obscurely rayed with red dots, whorls rounded, encircled with granosely scabrous thread-ridges; aperture pyriformly ovate, rather large, lip thinly expanded.

Cyclostoma revocatum, Gundlach, Malak. Blat. 1857, p. 178.

Chondropoma revocatum, Pfeiffer.

Hab. Cuba.

Distinguished by a light globosely inflated form, pale-yellow or straw-colour, passing towards the apex into flesh-rose.

Species 54. (Mus. Cuming.)

CHONDROPOMA EUSARCUM. *Chond. testâ compressè umbilicatâ, ovatâ, subventricosâ, rubello-stramineâ, fasciis pallidè rufis interruptis cinctâ, anfractibus convexis,*

subtiliter longitudinaliter filo-striatis; aperturâ obliquè ovatâ, subdissolutâ, supernè carinatâ, labro tenui, vix reflexo.

THE DELICATE CHONDROPOMA. Shell compressly umbilicated, ovate, rather ventricose, ruddy straw-colour, encircled with faint linear red bands, whorls convex, finely longitudinally thread-striated; aperture obliquely ovate, a little detached, keeled at the upper part, lip thin, scarcely reflected.

PFEIFFER, Pro. Zool. Soc. 1852.

Hab. Island of Haiti; Sallé.

The most characteristic feature of this species is its light ovate form, with the last whorl ventricose, and proportionately larger than usual.

Species 55. (Mus. Cuming.)

CHONDROPOMA HARPA. *Chond. testâ modicè umbilicatâ, subtubuloso-turritâ, pallidè cinnamomeâ, rufescente punctato-fasciatâ, anfractibus rotundatis, longitudinaliter membranaceis filo-striatis, striis subdistantibus, irregularibus; aperturâ obliquè circulari, labro reflexo, rosaceo.*

THE HARP CHONDROPOMA. Shell moderately umbilicated, somewhat tubularly turreted, pale cinnamon-colour, dot-banded with red-brown, whorls rounded, longitudinally membranaceously thread-striated, striæ rather distant, irregular; aperture obliquely circular, lip reflected, rose-tinted.

Cyclostoma harpa, Pfeiffer, Pro. Zool. Soc. 1851.

Chondropoma harpa, Pfeiffer.

Hab. Havana.

A very delicate cinnamon-coloured shell, of rather tubular growth, in which the striæ are like membranaceous threads, irregular and rather distant from each other.



56.



57.a.



57.b.



58.



59.a.



59.b.



60.



61.



62.



63.

(Slightly Enlarged.)

CHONDROPOMA.

PLATE VIII.

Species 56. (Mus. Cuming.)

CHONDROPOMA LATUM. *Chond. testā ampliter excavato-umbilicatā, depresso-globosā, stramineā, anfractibus rotundatis, obliquè eximie filo-striatis, ad umbilicum conspicuè carinatis; aperturā circulari, partim fimbriatā.*

THE BROAD CHONDROPOMA. Shell largely excavately umbilicated, depressly globose, straw-colour, whorls rounded, obliquely delicately thread-striated, conspicuously keeled at the umbilicus; aperture circular, partially fimbriated.

GUNDLACH, MS. in Mus. Cuming.

Hab. Cuba.

A very distinct form of the genus, in which the shell is depressly globose and largely deeply umbilicated, the umbilicus being prominently keeled throughout.

Species 57. (Fig. a, Mus. Cuming.)

CHONDROPOMA MARINUM. *Chond. testā subcompressè umbilicatā, oblongo-turritā, fulvā, punctis castaneis in seriebus duplicibus longitudinaliter strigatā, ad basin fasciatā, anfractibus convexis, longitudinaliter densè filo-liratis, ad suturas crenulatis; aperturā obliquè ovatā, subexpansā, radiatā.*

THE MARINE CHONDROPOMA. Shell rather compressly umbilicated, oblong-turreted, fulvous, longitudinally streaked with double rows of chestnut dots, banded at the base, whorls convex, longitudinally densely thread-ridged, crenulated at the sutures; aperture obliquely ovate, a little expanded, rayed.

WEINLAND, Malak. Blat. 1862.

Hab. Island of Haiti; Weinland.

Probably named *marinum* from the circumstance of its being found in the vicinity of the sea.

Species 58. (Mus. Cuming.)

CHONDROPOMA BASICARINATUM. *Chond. testā compressè umbilicatā, oblongo-turritā, sordide albā, semifossili, anfractibus plano-convexis, spiraliter superficialiter liratis, striis obliquis scabrosis transgredientibus, anfractu ultimo basi carinato; aperturā obliquè circulari, dissolutā, supernè carinatā, labro subfimbriato.*

THE BASE-KEELED CHONDROPOMA. Shell compressly

umbilicated, oblong-turreted, dead white, semifossil, whorls flatly convex, spirally superficially ridged, with oblique scabrous striæ passing over them, last whorl keeled at the base; aperture obliquely circular, detached, keeled at the upper part, lip slightly fimbriated.

Cyclostoma basicarinatum, Pfeiffer, Malak. Blat. 1855, p. 101. pl. 4. f. 2, 3.

Hab. Cuba.

A dead-white semifossil shell, belonging to a type of the genus, of which there are many other species of smaller size.

Species 59. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA MARGINALBUM. *Chond. testā subclaudente-umbilicatā, cylindraceo-oblongā, solidiusculā, pellucido-rosaceā, anfractibus plano-convexis, undique minutè filo-reticulatis, ad suturas subcrenulatis; aperturā obliquè circulari-ovatā, labro calloso-fimbriato, albo.*

THE WHITE-EDGED CHONDROPOMA. Shell with a nearly-closed umbilicus, cylindrically oblong, rather solid, transparent rose-tinted, whorls flatly convex, minutely thread-reticulated throughout, slightly crenulated at the sutures; aperture obliquely circularly ovate, lip callously fimbriated, white.

GUNDLACH, MS. in Mus. Cuming.

Hab. Cuba.

A very distinct form of *Chondropoma*, of solid growth, but yet of transparent rose-colour, white at the lip.

Species 60. (Mus. Cuming.)

CHONDROPOMA QUATERNATUM. *Chond. testā subclaudente-umbilicatā, cylindraceo-oblongā, flavescence-albā, interdum rosaceo tinctā, interdum purpureo-fuscā supra suturas, anfractibus plano-convexis, longitudinaliter densè costulato-striatis; aperturā parvā, obliquè ovatā, labro calloso-reflexo.*

THE QUATERNATE CHONDROPOMA. Shell with a nearly-closed umbilicus, cylindrically oblong, yellowish-white, sometimes tinged with rose, sometimes purple-brown above the sutures, whorls flatly convex, longitudinally closely rib-striated, aperture small, obliquely ovate, lip callously reflected.

Cyclostoma quaternatum, Lamarek, Anim. sans vert.
vol. viii. p. 358.

Cistula quaternata, Gray.

Tudora quaternata, Pfeiffer.

Hab. — ?

Allied to the preceding species in typical form.

Species 61. (Mus. Cuming.)

CHONDROPOMA HJALMERSONI. *Chond. testâ obtusè cylindraceâ, fulvescente, obscurè rufo-punctatâ, anfractibus convexis, decussatim obsoletè liris et malleatis; aperturâ obliquè ovatâ, labro subexpanso.*

HJALMERSON'S CHONDROPOMA. Shell obtusely cylindrical, fulvous, faintly red-dotted, whorls convex, decussately obsoletely ridged and malleated, aperture obliquely ovate, lip a little expanded.

PFEIFFER, MS. in Mus. Cuming.

Hab. — ?

A peculiar *Pupina*-like shell, dull in colour, with the surface obsoletely decussately ridged and malleated.

Species 62. (Mus. Cuming.)

CHONDROPOMA BLANDUM. *Chond. testâ subclaudente-umbilicatâ, ovato-turritâ, fusco-violaceâ, punctis rufis obscurè strigatâ, anfractibus convexis, longitudinaliter densè costulato-striatis, versus apicem scabrosis; aperturâ obliquè ovatâ, auriculato-fimbriatâ.*

THE FAIR CHONDROPOMA. Shell with a nearly-closed umbilicus, ovately turreted, brownish-violet, obscurely streaked with red dots, whorls convex, longitudinally densely rib-striated, scabrous towards the apex, aperture obliquely ovate, auriculately fimbriated.

PFEIFFER, Pro. Zool. Soc. 1852.

Hab. Island of Haiti; Sallé.

This and the three preceding species partake in nearly equal proportion of the characters of *Chondropoma*, *Cistula*, and *Tudora*, and might be referred to either genus.

Species 63. (Mus. Cuming.)

CHONDROPOMA PAPHYRACEUM. *Chond. testâ compressè umbilicatâ, ovato-turritâ, tenuiculâ, pallidè fuscâ, castaneo punctatâ et undatâ, anfractibus convexis, longitudinaliter densè filo-striatis, ad suturas crenulatis; aperturâ obliquè ovatâ, labro expanso, reflexo.*

THE PAPER CHONDROPOMA. Shell compressly umbilicated, ovately turreted, rather thin, light fuscous, dotted and waved with chestnut, whorls convex, longitudinally densely thread-striated, crenulated at the sutures, aperture obliquely ovate, lip expandedly reflected.

Cyclostoma papyraceum, C. B. Adams, Contr. no. 6. p. 92.

Chondropoma papyraceum, Pfeiffer.

Tudora papyracea, Pfeiffer.

Hab. Jamaica.

A very elaborately thread-striated shell, rather more inflated in the last whorl than usual.



64.



65a.



65b.



66.



67a.



67b.



68.



69.



70.



71.

Sowerby, del. et lith.

Slightly Enlarged.

Vincent Brooks, Imp.

CHONDROPOMA.

PLATE IX.

Species 64. (Mus. Cuming.)

CHONDROPOMA AGASSIZII. *Chond. testā subprofundè umbilicatā, globoso-turbinatā, rubello-stramineā, castaneo irregulariter maculatā, suturis angustè canaliculatis, anfractibus rotundatis, spiraliter liratis; aperturā pyriformi-circulari, labro subexpanso.*

AGASSIZ' CHONDROPOMA. Shell rather deeply umbilicated, globosely turbinated, reddish straw-colour, irregularly spotted with chestnut, sutures narrowly channelled, whorls rounded, spirally ridged; aperture pyriformly circular, lip a little expanded.

Cyclostoma Agassizii, Charpentier, Küster, Conch. Cab. pl. 38. f. 1, 2.

Cistula Agassizii, Pfeiffer.

Hab. Cuba.

Of a bright, warm straw-colour, variously freckled with chestnut spots and dots.

Species 65. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA TERNATUM. *Chond. testā subampliter profundè umbilicatā, globoso-turbinatā, stramineā, hyalinā, rufo-fusco maculatā, suturis angustè canaliculatis, anfractibus declivi-rotundatis, spiraliter tenuiliratis, ultimo subinflato, aperturā circulari, labro latè plano-fimbriato.*

THE TERNATE CHONDROPOMA. Shell—rather largely deeply umbilicated, globosely turbinated, straw-colour, hyaline, spotted with reddish-brown, sutures narrowly channelled, whorls slopingly rounded, spirally finely ridged, last whorl rather inflated, aperture circular, lip broadly flatly fimbriated.

Cyclostoma ternatum, Gould, MS. in Mus. Cuming.

Hab. — ?

Very like the preceding species in sculpture and colouring, but a more inflatedly convoluted hyaline shell, with the lip broadly fimbriated.

Species 66. (Mus. Cuming.)

CHONDROPOMA SOLARE. *Chond. testā imperforatā, conico-turritā, purpureo-cinereā, albo tenuifuniculatā, anfractibus convexis, spiraliter angustè liratis, inter-*

stitiis longitudinaliter minutè crenulatis, aperturā ovato-circulari, labro latissimè plicato-fimbriato.

THE SOLAR CHONDROPOMA. Shell imperforate, conically turreted, purple-ash, finely corded with white, whorls convex, spirally narrowly ridged, interstices longitudinally minutely crenulated, aperture ovately circular, lip encircled with a very broad puckered frill.

PFEIFFER, MS. in Mus. Cuming.

Hab. — ?

This fine species, lately named by Dr. Pfeiffer, is finely corded throughout with white ridges upon a purple-ash ground, which is most exquisitely crenulated in the opposite direction. The bold plated frill encircling the aperture, except on the side where it would be obstructed by the body whorl, is an equally striking character.

Species 67. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA SAGITTIFERUM. *Chond. testā umbilicatā, ovato-turritā, sordidè albā, ferrugineo-fusco longitudinaliter undatā, anfractibus declivi-convexis, liris plano-obtusis densissimè reticulatis; aperturā pyriformi-ovatā, labro plus minus fimbriato.*

THE ARROW-BEARING CHONDROPOMA. Shell umbilicated, ovately turreted, dull white, longitudinally waved with rust-brown, whorls slopingly convex, very densely reticulated with flatly obtuse ridges, aperture pyriformly ovate, lip more or less fimbriated.

Cyclostoma sagittiferum, C. B. Adams, Contr. Conch. no. 8. p. 137.

Cistula ? sagittifera, Pfeiffer.

Hab. Jamaica.

The sculpture of this shell is a close obtuse reticulation, with the interstices mere punctures.

Species 68. (Mus. Cuming.)

CHONDROPOMA GRUNERI. *Chond. testā angustè umbilicatā, oblongo-conicā, sordidè flavescens, subhyalinā, pone aperturam sparsè fusco-fasciatā, anfractibus declivi-convexis, spiraliter elevato-striatis; aperturā ovato-circulari, labro latissimè concavo-fimbriato.*

GRUNER'S CHONDROPOMA. Shell narrowly umbilicated,

oblong-conical, dull yellowish, subhyaline, sparsely banded with brown behind the aperture, whorls slopingly convex, spirally elevately striated, aperture ovately-circular, lip very broadly concavely frilled.

Cyclostoma Gruneri, Pfeiffer, Zeitschr. für Malac. 1846, p. 47.

Cistula Gruneri, Gray.

Hab. Honduras.

Of a peculiar dull, delicately transparent substance, faintly sculptured.

Species 69. (Mus. Cuming.)

CHONDROPOMA RADIOSUM. *Chond. testâ vix umbilicatâ, angustè turbinatâ, rubello-stramineâ, pallidè fusco interruptè lineatâ, anfractibus convexis, longitudinaliter densè crispato-striatis; aperturâ parvâ, labro latè concavo-fimbriato, fimbriâ plicatâ, fusco-radiatâ.*

THE RAYED CHONDROPOMA. Shell scarcely umbilicated, narrowly turbinated, reddish straw colour, faintly interruptedly lineated with brown, whorls convex, longitudinally densely crisply striated; aperture small, lip broadly concavely frilled, frill puckered, rayed with brown.

Cyclostoma radiosa, Morelet, Test. Noviss. p. 22.

Cistula radiosa, Pfeiffer.

Hab. Guatemala.

Exquisitely sculptured longitudinally, and beautifully rayed with brown behind the aperture.

Species 70. (Mus. Cuming.)

CHONDROPOMA ROSTRATUM. *Chond. testâ umbilicatâ, subangustè turbinatâ, albidâ, subhyalinâ, fusco longitudinaliter alternatim undatâ et punctatâ, anfractibus*

convexis, creberrimè longitudinaliter funiculatis, in suturas denticulatis; aperturâ ovato-circulari, labro calloso-fimbriato.

THE BEAKED CHONDROPOMA. Shell umbilicated, rather narrowly turbinated, whitish, subhyaline, alternately longitudinally waved and dotted with brown, whorls convex, very closely longitudinally corded, denticulated in the sutures, aperture ovately circular, lip callously frilled.

Cyclostoma rostratum, Pfeiffer, Pro. Zool. Soc. 1852, p. 66.

Cistula rostrata, Pfeiffer.

Hab. — ?

Neatly painted throughout with curiously regular waved lines and distant dots, ranging alternately.

Species 71. (Mus. Cuming.)

CHONDROPOMA BILABIATUM. *Chond. testâ umbilicatâ, ovato-turritâ, livido-cinereâ, anfractibus convexis, lineis spiralibus lamellis que scabrosis longitudinalibus decussatis; aperturâ pyriformi-ovatâ, obliquâ, labro sub-fimbriato.*

THE TWO-LIPPED CHONDROPOMA. Shell umbilicated, ovately turreted, livid ash-colour, whorls convex, decussated with spiral lines and longitudinal scabrous lamellæ, aperture pyriformly ovate, oblique, lip slightly fimbriated.

Cyclostoma bilabiatum, D'Orbigny, Moll. Cub. p. 258. pl. 22. f. 3 to 5.

Cyclostoma D'Orbignianum, Petit.

Cyclostoma salebrosum, Morelet.

Choanopoma bilabiatum, Gray.

Ctenopoma bilabiatum, Pfeiffer.

Hab. Cuba.

Chiefly distinguished by its close-set longitudinal scabrous lamellæ.



73.a.



72.



73.b.



74.



75.



76.



77.



78.



79.



80.

Slightly Enlarged.

CHONDROPOMA.

PLATE X.

Species 72. (Mus. Cuming.)

CHONDROPOMA ANTIGUENSE. *Chond. testá vix umbilicatá, oblongo-turritá, albidá, fuscescente pallidè punctatá, anfractibus convexis, longitudinaliter densè lamellatis, in suturas subdenticulatis; aperturá circulari, parvâ, labro minutè fimbriato.*

THE ANTIGUA CHONDROPOMA. Shell scarcely umbilicated, oblong-turreted, whitish, faintly dotted with brown, whorls convex, longitudinally densely lamellated, slightly denticulated in the sutures; aperture circular, small, lip minutely fimbriated.

Cyclostoma Antiguense, Pfeiffer, Mon. Pneum. Suppl. 1. p. 131.

Cistula Antiguensis, Pfeiffer.

Hab. Antigua.

Beautifully sculptured longitudinally with thin close-set lamellæ.

Species 73. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA RUFILABRE. *Chond. testá minutissimè umbilicatá, oblongo-cylindraceutá, solidiusculá, rubello-stramineá, roseo tinctá, fusco obscurè punctatá, anfractibus convexis, spiraliter tenuiliratis, longitudinaliter crenuloso-lamellatis; aperturá circulari, parvâ, labro sanguineo-rufo, obtusè fimbriato.*

THE RED-LIP CHONDROPOMA. Shell very minutely umbilicated, oblong-cylindrical, rather solid, reddish straw-colour, tinged with rose, obscurely dotted with brown, whorls convex, spirally finely ridged, longitudinally crenulously lamellated; aperture circular, small, lip blood-red, obtusely fimbriated.

Cyclostoma rufilabre, Beck, Pfeiffer, Mon. Pneum. Suppl. 1. p. 133.

Cyclostoma bilabre, Menke.

Cistula rufilabris, Gray.

Tudora rufilabris, Morch.

Hab. Santa Cruz, West Indies.

A small solid cylindrical shell, with a callous blood-red lip.

Species 74. (Mus. Cuming.)

CHONDROPOMA INCULTUM. *Chond. testá vix umbilicatá, oblongo-turritá, flavescete, castaneo interruptè lineatá,*

anfractibus convexis, obscurè reticulatis, in suturas valdè denticulatis; aperturá circulari, parvâ, labro expanso-reflexo.

THE NEGLECTED CHONDROPOMA. Shell scarcely umbilicated, oblong-turreted, yellowish, interruptedly lineated with chestnut, whorls convex, obscurely reticulated, strongly denticulated in the sutures; aperture circular, small, lip expandedly reflected.

Cyclostoma incultum, Poey, Mém. 1. p. 98. pl. 8. f. 4, 5.

Chondropoma incultum, Pfeiffer.

Cistula inculta, Pfeiffer.

Hab. Cuba.

Sculpture is very obscure on the surface of this shell, but strongly developed in sutural denticles.

Species 75. (Mus. Cuming.)

CHONDROPOMA TAMSIANA. *Chond. testá conico-turritá, rubello-stramineá, purpureo-fusco tinctá et interruptè fasciatá, anfractibus rotundatis, longitudinaliter densè tenuilamellatis; aperturá pyriformi-circulari, labro tenuè expanso-reflexo.*

TAMS' CHONDROPOMA. Shell conically turreted, reddish straw-colour, stained and interruptedly banded with purple-brown, whorls rounded, longitudinally densely finely lamellated; aperture pyriformly circular, lip thinly expandedly reflected.

Cyclostoma Tamsiana, Pfeiffer, Zeitschr. für Malac. 1850, p. 77.

Hab. Venezuela; Dr. Tams.

The conically turreted form of this species is peculiar; the sculpture as in many of the more oblong Cuban and Jamaica species.

Species 76. (Mus. Cuming.)

CHONDROPOMA LUGUBRE. *Chond. testá vix umbilicatá, subangustè turritá, flavescete, violaceo-cinereo latifasciatá, anfractibus plano-convexis, longitudinaliter conspicuè lamellatis, in suturas denticulatis; aperturá circulari, labro expanso-fimbriato, fimbriâ purpureo-radiatá.*

THE MOURNFUL CHONDROPOMA. Shell scarcely umbilicated, rather narrowly turreted, yellowish, broadly

banded with violet-ash, whorls flatly convex, longitudinally conspicuously lamellated, denticulated in the sutures; aperture circular, lip expandedly fimbriated, frill rayed with purple.

Cyclostoma lugubre, Pfeiffer, Pro. Zool. Soc. 1851, p. 249.

Cistula lugubris, Pfeiffer.

Hab. Jamaica.

The longitudinal lamellæ are rather more than usually conspicuous in this species, which is especially distinguished by its violet-ash-banded colouring.

Species 77. (Mus. Cuming.)

CHONDROPOMA PALLIDUM. *Chond. testâ modicè umbilicatâ, conico-turritâ, sordidè stramineâ, subhyalinâ, pallidè fusco sparsim punctatâ, anfractibus convexis, longitudinaliter minutissimè densè lamellatâ; aperturâ circulari, labro sublatè fimbriato.*

THE PALE CHONDROPOMA. Shell moderately umbilicated, conically turreted, dull straw-colour, subhyaline, sparsely dotted with pale-brown, whorls convex, longitudinally very minutely closely lamellated; aperture circular, lip rather broadly fringed.

Cyclostoma pallidum, Pfeiffer, Pro. Zool. Soc. 1851, p. 248.

Cistula pallida, Pfeiffer.

Hab. Havana.

Of the conically turreted type, with the longitudinal lamellar sculpture extremely finely developed.

Species 78. (Mus. Cuming.)

CHONDROPOMA SHEPARDIANUM. *Chond. testâ angustè turritâ, rubello-luteâ, fusco punctato-strigatâ, anfractibus rotundatis, longitudinaliter conspicuè lamellatis, in suturis denticulatis, anfractu ultimo subsoluto; aperturâ circulari, labro subfimbriato.*

SHEPARD'S CHONDROPOMA. Shell narrowly turreted, reddish yellow, dot-streaked with brown, whorls rounded, longitudinally conspicuously lamellated, denticulated in the sutures, last whorl slightly uncoiled; aperture circular, lip a little fimbriated.

Cyclostoma Shepardiana, C. B. Adams, Contr. Conch. no. 6. p. 92.

Cistula Shepardiana, Pfeiffer.

Hab. Jamaica.

The longitudinal lamellar sculpture strongly predominates; the last whorl is slightly uncoiled.

Species 79. (Mus. Cuming.)

CHONDROPOMA MORDAX. *Chond. testâ compressè umbilicatâ, angustè turritâ, flavescente, castaneo variè lentiginosâ, anfractibus rotundatis, longitudinaliter densè scabroso-lamellatis, anfractu ultimo castaneo unifasciato; aperturâ pyriformi-circulari, labro tenuè expanso.*

THE CUTTING CHONDROPOMA. Shell compressly umbilicated, narrowly turreted, yellowish, variously freckled with chestnut, whorls rounded, longitudinally densely scabrously lamellated, last whorl encircled with a chestnut band; aperture pyriformly circular, lip thinly expanded.

Cyclostoma mordax, C. B. Adams, Contr. Conch. no. 1. p. 12.

Cistula mordax, Pfeiffer.

Hab. Jamaica.

The lamellæ of this species are more than usually scabrous, sharp and cutting.

Species 80. (Mus. Cuming.)

CHONDROPOMA RIISEI. *Chond. testâ vix umbilicatâ, conico-turritâ, flavescente, pallidè fusco promiscuè punctatâ, anfractibus declivi-convexis, longitudinaliter densè filoso-lamellatis, lamellis in suturas denticulatis; aperturâ obliquè ovatâ, parvâ, labro plano-reflexo, radiato.*

RIISE'S CHONDROPOMA. Shell scarcely umbilicated, conically turreted, yellowish, promiscuously dotted with pale-brown, whorls slopingly convex, longitudinally densely thread-lamellated, lamellæ denticulated in the sutures; aperture obliquely ovate, small, lip flatly reflected, rayed.

PFEIFFER, Mon. Pneum. p. 418.

Hab. Porto Rico.

A conically turreted species, in which the longitudinal lamellæ have more the character of fine threads.



Slightly Enlarged.

CHONDROPOMA.

PLATE XI.

Species 81. (Mus. Cuming.)

CHONDROPOMA CINCLIDODES. *Chond. testā imperforatā, cylindraceo-oblongā, albidā, fusco sparsim punctatā, anfractibus plano-convexis, scabroso-reticulatis, in suturis minutè denticulatis; aperturā obliquè ovatā, parvā, labro vix reflexo.*

THE DELICATE CHONDROPOMA. Shell imperforate, cylindrically oblong, whitish, sparsely dotted with brown, whorls flatly convex, scabrously reticulated, minutely denticulated in the sutures; aperture obliquely ovate, small, lip scarcely reflected.

Cyclostoma cinclidodes, Pfeiffer, Pro. Zool. Soc. 1852, p. 142.

Cistula cinclidodes, Pfeiffer.

Hab. Haiti; Sallé.

A small cylindrical species, lamellarly sculptured after the prevailing type of the genus, but more reticulated with raised spiral lines.

Species 82. (Mus. Cuming.)

CHONDROPOMA TROCHLEARE. *Chond. testā minutè umbilicatā, angustè turratā, flavescens, fusco interruptè fasciatā, anfractibus rotundatis, obliquè tenuilamellatis; aperturā circulari, parvā, labro fimbriato, fimbriā fusco radiatā.*

THE COILED CHONDROPOMA. Shell minutely umbilicated, narrowly turreted, yellowish, interruptedly banded with brown, whorls rounded, obliquely finely lamellated; aperture circular, small, lip fimbriated, frill rayed with brown.

Cyclostoma trochleare, Pfeiffer, Pro. Zool. Soc. 1851, p. 249.

Cistula trochlearis, Pfeiffer.

Hab. Chiapa, Mexico.

The slender longitudinal lamellæ are not so close-set in this species as usual.

Species 83. (Mus. Cuming.)

CHONDROPOMA LIVIDUM. *Chond. testā compressè umbilicatā, conico-turratā, lividā, fusco obscure punctatā, anfractibus convexis, striis densè filoso-reticulatis; aperturā circulari, labro subfimbriato.*

THE LIVID CHONDROPOMA. Shell compressly umbilicated, conically turreted, livid, obscurely dotted with brown, whorls convex, closely reticulated with thread-like striæ; aperture circular, lip slightly fimbriated.

Hab. Cuba.

This species appears to have been mistaken for D'Orbigny's *C. bilabiatum*.

Species 84. (Mus. Cuming.)

CHONDROPOMA GRATELOUPI. *Chond. testā oblongā, solidiusculā, flavescens, pallidè fusco punctatā et fasciatā, anfractibus convexis, longitudinaliter confertim obtusè liratis, interstitiis minutè clathratis, suturis denticulatis; aperturā circulari, labro concavo-fimbriato.*

GRATELOUP'S CHONDROPOMA. Shell oblong, rather solid, yellowish, dotted and banded with pale brown, whorls convex, longitudinally closely obtusely ridged, interstices minutely latticed, sutures denticulated; aperture circular, lip concavely fimbriated.

Cyclostoma Grateloupi, Pfeiffer, Pro. Zool. Soc. 1851, p. 246.

Cistula Grateloupi, Pfeiffer.

Hab. Yucatan.

The longitudinal sculpture, commonly of a fine lamellar character, is here developed in obtuse ridges.

Species 85. (Fig. a, b, Mus. Cuming.)

CHONDROPOMA SAULIÆ. *Chond. testā subapertè umbilicatā, gracili-turratā, albidā, subhyalinā, punctis paucis pallidè fuscis tinctā, anfractibus rotundatis, longitudinaliter exilissimè lamellatis; aperturā rotundā, labro calloso-fimbriato, fimbriā albā, castaneo conspicuè radiato.*

SAUL'S CHONDROPOMA. Shell rather openly umbilicated, slenderly turreted, whitish, subhyaline, stained with a few pale-brown dots, whorls rounded, longitudinally very delicately lamellated; aperture round, lip callously fimbriated, frill white, conspicuously rayed with chestnut.

Cyclostoma Sauliæ, Sowerby, Thes. Conch. p. 145. pl. 28. f. 189.

Choanopoma Sauliæ, Gray.

Cistula Sauliæ, Pfeiffer.

Hab. Jamaica.

An extremely delicate species, with a pretty contrast of dark radiated painting on the frill.

Species 86. (Mus. Cuming.)

CHONDROPOMA LARGILLIERTI. *Chond. testâ minutè umbilicatâ, oblongo-cylindrâ, livido-albidâ, fusco sparsim punctatâ, anfractibus plano-convexis, longitudinaliter confertim obtusè latis, interstitiis minutè clathratis, suturis denticulatis; aperturâ circulari, labro concavo-fimbriato.*

LARGILLIERT'S CHONDROPOMA. Shell minutely umbilicated, oblong-cylindrical, livid white, sparsely dotted with brown, whorls flatly convex, longitudinally closely obtusely ridged, interstices minutely latticed, sutures denticulated, aperture circular, lip concavely fimbriated.

Cyclostoma Largillierti, Pfeiffer, Zeitschr. für Malac. 1846, p. 46.

Choanopoma Largillierti, Gray.

Cistula Largillierti, Pfeiffer.

Hab. Yucatan; Largilliert.

A dull, obtusely ridged shell, very closely allied to *C. Grateloupi*.

Species 87. (Mus. Cuming.)

CHONDROPOMA KUSTERI. *Chond. testâ minutè umbilicatâ, conico-turritâ, rubello-stramineâ, fusco obscure punctatâ, anfractibus rotundatis, striis scabrosis confertim decussatis; aperturâ circulari, labro concavo-fimbriato, fimbriâ subplicatâ.*

KUSTER'S CHONDROPOMA. Shell minutely umbilicated, conically turreted, reddish straw-colour, obscurely dotted with brown, whorls rounded, closely decussated with scabrous striæ; aperture circular, lip concavely fimbriated, frill a little puckered.

Cyclostoma Kusteri, Pfeiffer, Pro. Zool. Soc. 1851, p. 249.

Hab. Honduras; Dyson.

Sculptured with a decussation of a very uniform character.

Species 88. (Mus. Cuming.)

CHONDROPOMA IGNEA. *Chond. testâ compressè umbilicatâ, cylindrâ-conicâ, solidiusculâ, albâ, igneoseo tinctâ, anfractibus convexis, minutissimè lamellato-decussatis, in suturis subtiliter denticulatis; aperturâ pyriformi-circulari, labro vix reflexo.*

THE FIERY CHONDROPOMA. Shell compressly umbilicated, cylindrically conical, rather solid, whitish, tinged with fiery rose, whorls convex, very minutely lamellarly decussated, finely denticulated in the sutures, aperture pyriformly circular, lip scarcely reflected.

Hab. — ?

An extremely minutely lamellated species, remarkably tinged towards the apex with a bright, bronze-like, fiery rose-colour.

Species 89. (Mus. Cuming.)

CHONDROPOMA RADULA. *Chond. testâ minutè umbilicatâ, conico-turritâ, flavescens, fusco sparsim punctato-fasciatâ, anfractibus rotundatis, decussatim serrato-lamellatis; aperturâ circulari, parvâ, labro latè plano-fimbriato, fimbriâ fusco-radiatâ.*

THE RASP CHONDROPOMA. Shell minutely umbilicated, conically turreted, yellowish, sparsely dot-banded with brown, whorls rounded, decussately serrately lamellated; aperture circular, small, lip broadly flatly fimbriated, frill rayed with brown.

Cyclostoma radula, Pfeiffer, Pro. Zool. Soc. 1851, p. 246.

Cistula radula, Pfeiffer.

Hab. Havana.

In this species the decussating lamellæ are more serrated, like a rasp to the touch.

MONOGRAPH
OF THE GENUS
ADAMSIELLA.

He's walk'd the way of nature ;
And, to our purposes, he lives no more."—*Shakespeare.*

MONOGRAPH

ON THE

ADAMSTIEVE



1.



2.



3.



4.



5a.



5b.



6.



7a.



7b.



8.

(Slightly Enlarged.)

ADAMSIELLA.

PLATE I.

Genus ADAMSIELLA, Pfeiffer.

Testa oblongo-turrita vel pupæformis, plerumque minutè reticulata, ad suturas raro crenulata, anfractu ultimo sæpe plus minus soluto; aperturâ parviusculâ, labro plerumque calloso-fimbriato. Operculum circulare, tenue, subcartilagineum, anfractibus paucis, sensim crescentibus, margine sublibero, nucleo subcentrali.

Shell oblong-turreted or pupa-shaped, generally minutely reticulated, rarely crenulated at the sutures, last whorl often more or less uncoiled; aperture rather small, lip generally callously fimbriated. Operculum circular, thin, somewhat cartilaginous, whorls few, increasing gradually, with the edge somewhat free, nucleus nearly central.

In this genus of *Cyclostomacea*, named in honour of the late Professor C. B. Adams, the operculum is circular, formed of a few gradually increasing whorls, slightly free at the edge, with the nucleus nearly central. The species, of which there are scarcely more than a dozen well defined, are composed of rather narrow whorls, the last being generally more or less uncoiled. The sculpture is minute, delicately thread-like, including in some instances a few crenulations in the sutures. The aperture is small and subtubular, mostly encircled with a flatly expanded callous frill. All the species, excepting one from Cuba, are from Jamaica, one ranging into Demerara. A shell, unknown to me, it should however be added, was described in 1861 (Pro. Zool. Soc. p. 232) by the Rev. H. B. Tristram, under the name *A. Osberti*, collected by Mr. Salvin in Guatemala.

Species 1. (Mus. Cuming.)

ADAMSIELLA IGNILABRIS. *Adams. testâ angustè profundè umbilicatâ, turritâ, fuscâ, labro vividè miniato; anfractibus rotundatis, striis elevatis undique dense annulatis; labro duplici, calloso-reflexo.*

THE FIRE-LIP ADAMSIELLA. Shell narrowly deeply umbilicated, turreted, fuscous, lip bright scarlet-red; whorls rounded, closely ringed throughout with raised striæ; lip duplex, callously reflected.

Cyclostoma ignilabre, Adams, Contr. to Conch. No. 1. p. 9.

Adamsiella ignilabris, Pfeiffer.

Cyclostoma chlorostoma, Sowerby.

Choanopoma chlorostoma, Gray.

Adamsiella chlorostoma, Pfeiffer.

Hab. Jamaica. Demerara.

A closely ring-striated species, in which the fiery-red colouring of the lip contrasts in a striking manner with the dull brown of the shell.

Fig. 2. (Mus. Cuming.)

This shell, which is Mr. Sowerby's *Cyclostoma articulatum*, proves to be a variety of Professor C. Adams's *Cyclostoma variabile* (*Adamsiella variabilis*, Pfeiffer).

Species 3. (Mus. Cuming.)

ADAMSIELLA GRAYANA. *Adams. testâ subangustè profundè umbilicatâ, ovato-pupæformi, violaceo-fuscâ, sericeâ, anfractibus rotundatis, striis elevatis undique confertim decussatis, labro duplici, latè calloso-expanso, fulvescente.*

GRAY'S ADAMSIELLA. Shell rather narrowly deeply umbilicated, ovately pupa-shaped, violet-brown, silky, whorls rounded, closely decussated throughout with raised striæ, lip duplex, broadly callously expanded, yellowish.

Cyclostoma Grayanum, Pfeiffer, Zeitsch. für Malac. 1846.

Cyclostoma obscurum, Gray (not of Draparnaud).

Choanopoma Grayanum, Pfeiffer.

Adamsiella Grayanum, Pfeiffer.

Cyclostoma concentricum, C. B. Adams.

Cyclostoma serriferum, C. B. Adams.

Hab. Jamaica.

Of a rather short pupa-like form, with the lip broadly callously expanded.

Species 4. (Mus. Cuming.)

ADAMSIELLA MONSTROSA. *Adams. testâ subapertè umbilicatâ, oblongo-turritâ, fulvescente, semipellucidâ, rufo-fusco eximiè maculatâ et marmoratâ, anfractibus angustis, rotundatis, decussatim striatis, ultimo soluto; aperturâ minutâ, labro latissimè calloso-reflexo.*

THE MONSTROUS ADAMSIELLA. Shell rather openly umbilicated, oblong-turreted, yellowish, semitransparent, lightly spotted and marbled with red-brown, whorls

narrow, rounded, decussately striated, last whorl uncoiled; aperture very small, lip very broadly callously reflected.

Cyclostoma monstrosus, Adams, Contr. to Conch. no. 1. p. 5.

Adamsiella monstrosa, Pfeiffer.

Hab. Jamaica.

A semitransparent delicately-painted shell of narrow subtubular whorls, of which the last is partially unrolled, with the lip unusually broadly flatly reflected.

Species 5. (Fig. a, b, Mus. Cuming.)

ADAMSIELLA VARIABILIS. *Adams. testā profundè umbilicatā, ovato-turbinatā, fulvescente, fusco variè fasciatā, juxta suturas articulatā, anfractibus subangustis, rotundatis, striis elevatis minutè decussatis, labro duplici, modicè expanso.*

THE VARIABLE ADAMSIELLA. Shell deeply umbilicated, ovately turbinated, fulvous, variously banded with brown, articulated next the sutures, whorls rather narrow, rounded, minutely decussated with raised striæ, lip duplex, moderately expanded.

Cyclostoma articulatum, Gray (not of Draparnaud).

Cyclostoma variabile, Adams.

Cyclostoma mutatum, Adams.

Choanopoma articulatum, Pfeiffer.

Adamsiella variabilis, Pfeiffer.

Hab. Jamaica.

This species, as may be seen by our figures, varies in form, and the decussating striæ are stronger in some specimens than in others. The painting consists almost invariably of bands, with an articulation of spots below the sutures.

Species 6. (Fig. a, b, Mus. Cuming.)

ADAMSIELLA PEARMANÆANA. *Adams. testā apertè profundè umbilicatā, oblongo-turritā, pellucido-albā, rufo-fusco minutè lentiginosā et radiatā, anfractibus subangustis, rotundatis, striis pulchrè decussatis, longitudinalibus lamelliformibus, anfractu ultimo soluto; aperturā parvā, labro eleganter fimbriato.*

PEARMAN'S ADAMSIELLA. Shell openly deeply umbilicated, oblong-turreted, transparent-white, minutely freckled and rayed with red-brown, whorls rather narrow, rounded, beautifully decussated with striæ, of which the longitudinal are raised into lamellæ, last whorl uncoiled; aperture small, lip elegantly fimbriated.

Cyclostoma Pearmanæanum, Chitty, Contr. to Conch. no. 1. p. 2.

Cyclostoma longicollæ, Pfeiffer.

Adamsiella Pearmanæana, Pfeiffer.

Hab. Jamaica.

In this most elegant species the longitudinal striæ are raised throughout into fine thread-like lamellæ, while the frill encircling the aperture is removed some little distance back from the lip.

Species 7. (Fig. a, b, Mus. Cuming.)

ADAMSIELLA INTERMEDIA. *Adams. testā subapertè profundè umbilicatā, oblongo-turritā, fulvescente-albā, semipellucidā, rufo-fusco interruptè fasciatā et articulatā, anfractibus rotundatis, striis elevatis reticulato-decussatis; aperturā parviusculā, labro calloso-fimbriato.*

THE INTERMEDIATE ADAMSIELLA. Shell rather openly deeply umbilicated, oblong turreted, fulvous white, semitransparent, interruptedly banded and articulated with red-brown, whorls rounded, reticulately decussated with raised striæ; aperture rather small, lip callously fimbriated.

Cyclostoma intermedium, Adams, Contr. to Conch. no. 1. p. 5.

Adamsiella intermedia, Pfeiffer.

Hab. Jamaica.

Characterized among other features by the interrupted slightly-waved style of the painting.

Species 8. (Mus. Cuming.)

ADAMSIELLA BINNEYANA. *Adams. testā profundè umbilicatā, ovato-turritā, subcylindraceā, fulvescente-albā, medio fasciā latā castaneā cingulatā, anfractibus convexis, sub lente minutè decussatis, labro calloso-reflexo, albo.*

BINNEY'S ADAMSIELLA. Shell deeply umbilicated, ovately turreted, subcylindrical, yellowish-white, encircled round the middle with a broad chestnut band, whorls convex, minutely decussated beneath the lens, lip callously reflected, white.

Cyclostoma Binneyanum, Adams, Pfeiffer, Zeitschr. für Malac. 1846, p. 47.

Cyclostoma pulchrius, Adams.

Choanopoma Binneyanum, Gray.

Adamsiella pulchrior, Pfeiffer.

Hab. Jamaica.

This apparently smooth shell is especially distinguished by its single broad chestnut band.



9.



10.



11.



12.



13.a.



13.b.



14.



15.



16.



17.

(Slightly Enlarged.)

ADAMSIELLA.

PLATE II.

Species 9. (Mus. Cuming.)

ADAMSIELLA CHORDATA. *Adams. testā minutè umbilicatā, subangustè turritā, fulvā, vividè castaneo lineari-fasciatā, anfractibus convexis, striis tenuibus decussatis, striis longitudinalibus subtiliter filosis, ad suturas crenulatis, labro tenuè reflexo.*

THE STRINGED ADAMSIELLA. Shell minutely umbilicated, rather narrowly turreted, fulvous, linearly banded with bright-chestnut, whorls convex, decussated with fine striæ, the longitudinal striæ raised in fine threads, crenulated at the sutures, lip thinly reflected.

GUNDLACH, MS. in Mus. Cuming.

Hab. Cuba.

The delicate longitudinal thread-like striæ are paler in colour than the ground of the shell, which is encircled throughout with from three to four linear bands of bright-chestnut.

Species 10. (Mus. Cuming.)

The shell here represented is the type of Mr. Sowerby's *Cyclostoma chlorostoma* (*Adamsiella chlorostoma*, Pfeiffer). It appears to me to be a yellow-lipped variety of *A. igni-labris*.

Species 11. (Mus. Cuming.)

ADAMSIELLA PINGUIS. *Adams. testā subampliter umbilicatā, acuminato-turritā, cinnamomeo-fuscā, submicante, anfractibus angustis, rotundatis, liris spiralibus obtusis, striisque longitudinalibus minutis, sculptis.*

THE GREASY ADAMSIELLA. Shell rather largely umbilicated, acuminately turreted, cinnamon-brown, rather shining, whorls narrow, rounded, sculptured with obtuse spiral ridges and minute longitudinal striæ.

Cyclostoma pingue, Pfeiffer, Pro. Zool. Soc. 1851, p. 248.

Adamsiella pinguis, Pfeiffer.

Hab. — ?

The oily shining aspect of this shell, after which it is named, can hardly be relied on as a specific character.

Species 12. (Mus. Cuming.)

ADAMSIELLA MORIBUNDA. *Adams. testā apertè profundè umbilicatā, oblongā, solidiusculā, lutescente, anfrac-*

tibus rotundatis, minutissimè decussatim striatis, striis longitudinalibus validioribus, ad suturas crenatis, labro angustè plano-fimbriato.

THE DEATH-LIKE ADAMSIELLA. Shell openly deeply umbilicated, oblong, rather solid, yellowish, whorls rounded, very minutely decussately striated, longitudinal striæ the stronger, crenated at the sutures, lip narrowly flatly fimbriated.

Cyclostoma moribundum, Adams, Contr. to Conch. no. 1. p. 5.

Adamsiella moribunda, Pfeiffer.

Hab. Jamaica.

A pale-yellowish shell, minutely decussated throughout, the longitudinal striæ, which are the stronger, having the appearance of delicate silken cords.

Species 13. (Fig. a, b, Mus. Cuming.)

ADAMSIELLA MIRABILIS. *Adams. testā apertè profundè umbilicatā, oblongo-conicā, tenuiculā, albidā, rufo-fusco interruptè lineatim trifasciatā, infra suturas conspicuè maculatā, anfractibus rotundatis, striis elevatis granoso-decussatis, labro plano-fimbriato, subcalloso.*

THE WONDERFUL ADAMSIELLA. Shell openly deeply umbilicated, oblong-conical, rather thin, whitish, interruptedly linearly three-banded with red-brown, conspicuously spotted beneath the sutures, whorls rounded, granosely decussated with raised striæ, lip flatly fimbriated, rather callous.

Turbo mirabilis, Wood, Ind. Test. Supp. pl. 6. f. 22.

Cyclostoma mirabile, Gray.

Cyclostoma decussatulum, Adams.

Adamsiella mirabilis, Pfeiffer.

Hab. Jamaica.

In this species the decussation has almost the granular roughness of a thimble.

Species 14. (Mus. Cuming.)

ADAMSIELLA MIRANDA. *Adams. testā apertè profundè umbilicatā, oblongo-conicā, albidā, rufo-fusco interruptè trifasciatā, infra suturas conspicuè maculatā, anfractibus rotundatis, minutè decussatim striatis, striis longitudinalibus validioribus, anfractu ultimo paululum soluto, labro conspicuè plano-fimbriato.*

THE ADMIRER ADAMSIELLA. Shell openly deeply umbilicated, oblong-conical, whitish, interruptedly three-banded with red-brown, conspicuously spotted beneath the sutures, whorls rounded, minutely decussately striated, longitudinal striæ the stronger, last whorl a little uncoiled, lip conspicuously flatly frilled.

Cyclostoma mirandum, Contr. to Conch. no. 1. p. 4.

Adamsiella miranda, Pfeiffer.

Hab. Jamaica.

Resembling the preceding species in colouring, but with the last whorl more loosely coiled, while the decussation is different. Here the spiral striæ are almost obsolete, and the longitudinal striæ have the appearance of fine silken cords.

Fig. 15 and 16. (Mus. Cuming.)

The shells here figured represent respectively Professor C. B. Adams' *Cyclostoma* (*Adamsiella*) *serriferum* and *concentricum*, both of which alleged species Dr. Pfeiffer refers to *A. Grayana*.

Species 17. (Mus. Cuming.)

ADAMSIELLA XANTHOSTOMA. *Adams. testâ apertè profundè umbilicatâ, subacuminato-turritâ, cinereo-fuscescente, anfractibus rotundatis, spiraliter obtusè liris, longitudinaliter densè minutissimè striatis, labro callosè plano-fimbriato, aurantio-luteo.*

THE YELLOW-MOUTH ADAMSIELLA. Shell openly deeply umbilicated, rather acuminately turreted, light ash-brown, whorls rounded, spirally obtusely ridged, longitudinally densely very minutely striated, lip callously flatly fimbriated, orange-yellow.

Cyclostoma xanthostoma, Sowerby, Thesaurus Conch. p. 144. pl. 29. f. 175.

Cyclostoma tenuistriatum, Adams.

Choanopoma xanthostoma, Gray.

Adamsiella xanthostoma, Pfeiffer.

Hab. Jamaica.

Of a more acuminately turreted form than usual in the genus; this shell is further distinguished by the prominence of its spiral ridges and orange-yellow lip.

MONOGRAPH
OF THE GENUS
A N A S T O M A .

"In her most green recesses, to be found
By all who seek her truly."—*Barry Cornwall.*

MONOGRAPH

THE LIFE

A. N. S. T. O. M. A.

IN THE



1.a.



2.a.



2.b.



3.a.



4.a.



4.b.



3.b.



5.a.



5.b.



1.b.

ANASTOMA.

PLATE I.

Genus ANASTOMA, Fischer.

Testa depressè globosa, lenticularis, anfractu ultimo abruptè transvoluto, aperturâ semilunari, supra spiram reversâ, utrinque intro dentatâ, dentibus plicato-laminatis, exterioribus quatuor ad quinque, columellaribus duobus, labro expanso-reflexo, interdum supernè perforato.

Shell depressly globose, lens-shaped, last whorl abruptly turned across, aperture semilunar, turned upwards towards the spire, toothed within on both sides, teeth plicately laminate, outer teeth four to five, columellar teeth two, lip expandedly reflected, sometimes perforated at the upper part.

It is a curious feature in the natural history of Brazil that that country should give birth to a form of snail differing from all other snails in a habit of reversing the position of its shell on arriving at maturity. Up to the formation of the first half of the last whorl the growth of the shell proceeds as usual, but from this point the whorl is suddenly turned across in the direction of the apex. By this new effort of the animal the shell is overturned, and the aperture is brought on a plane with the spire. The snail thenceforward crawls with its spire downwards, and base upwards. Two very distinct species of *Anastoma* were known to Férussac and Lamarck, *A. ringens* and *globulosum*, the first having been known to Linnæus. Three more species have been added by modern writers, but they are of much inferior value. *A. Deshayesianum* and *Verreauxianum* differ little from *A. ringens*; and *A. carinatum* is probably only a variety of *A. globulosum*.

Species 1. (Fig. a, b, Mus. Cuming.)

ANASTOMA CARINATUM. *Anast. testâ orbiculari, depressiusculâ, ad peripheriam plus minus angulato-carinatâ, livido-olivaceâ, supra peripheriam ustulato-purpureo fasciatâ, infra purpureo-rufo maculatâ, anfractibus supra concentricè arcuato-striatis, infra reticulato-corrugatis, labro supernè perforato.*

THE KEELED ANASTOMA. Shell orbicular, rather depressed, more or less angularly keeled at the periphery, livid olive, banded above the periphery with burnt-purple, beneath spotted with purple-red, whorls concentrically arcuately striated above, reticulately wrinkled below, lip perforated above.

PFEIFFER, Pro. Zool. Soc. 1853. p. 57.

Hab. Brazil.

This and *A. globulosum*, which are probably varieties of one and the same species, are curiously characterized by the lip being perforated at its upper junction with the body whorl.

Species 2. (Fig. a, b, Mus. Cuming.)

ANASTOMA GLOBULOSUM. *Anast. testâ depresso-globosâ, ad peripheriam nunc rotundatâ, nunc subcarinatâ, livido-olivaceâ, supra peripheriam ustulato-purpureo fasciatâ, infra purpureo-rufo lentiginosâ, anfractibus supra concentricè arcuato-striatis, infra reticulato-corrugatis.*

THE GLOBULAR ANASTOMA. Shell depressly globose, now rounded, now slightly keeled at the periphery, livid olive, banded above the periphery with burnt-purple, freckled beneath with purple-red, whorls concentrically arcuately striated above, reticulately wrinkled below.

LAMARCK, Anim. sans vert. vol. 8. p. 153.

Helix ringicula, Férussac.

Hab. Brazil.

The examples set apart for this species are uniformly smaller and rounder than those of the preceding.

Species 3. (Fig. a, b, Mus. Cuming.)

ANASTOMA RINGENS. *Anast. testâ depresso-orbiculari, subrudè tumidâ, ad peripheriam sæpe subcarinatâ, albidâ, rufo-castaneo inquinatâ et maculatâ, juxta suturas fasciatâ, supra lævigatâ, infra obscure corrugato-striatâ.*

THE GRINNING ANASTOMA. Shell depressly orbicular, rather rudely swollen, often slightly keeled at the periphery, whitish, daubed and spotted with reddish-chestnut, banded next the sutures, smooth above, obscurely wrinkle-striated beneath.

Helix ringens, Linnæus, Syst. Nat. p. 1243.

Tomogerus ringens, De Montford.

Anostoma depressa, Lamarck.

Anostoma ringens, Deshayes.

Hab. Brazil.

The largest of the genus, rather rudely tumidly convoluted, the aperture being white and conspicuously expanded.

Species 4. (Fig. a, b, Mus. Cuming.)

ANASTOMA VERREAUXIANUM. *Anast. testā depressè orbiculari, subrudè tumidā, ad peripheriam sæpe subcarinatā, fulvescente, livido-purpurascete tinctā, rufo-castaneo sparsim maculatā, supra arcuato-striatā, infra corrugato-striatā, labro livido-purpurascete.*

VERREAUX'S ANASTOMA. Shell depressly orbicular, somewhat rudely swollen, often keeled at the periphery, fulvous, tinged with livid purple, sparingly blotched with reddish-chestnut, arcuately striated above, wrinkle-striated beneath, lip livid purple.

HUPÉ, Journ. Conch. vol. 5. p. 352.

Hab. Brazil.

Distinguished by its livid purple colouring, especially about the aperture.

Species 5. (Fig. a, b, Mus. Cuming.)

ANASTOMA DESHAYESIANUM. *Anast. testā depressè orbiculari, tumidiusculā, ad peripheriam parum canaliculatā, albidā, rufo-castaneo maculatā et fasciatā, supra lævigatā, infra corrugato-striatā, aperturā subcontractā.*

DESHAYES' ANASTOMA. Shell depressly orbicular, rather swollen, but little keeled at the periphery, whitish, blotched and banded with reddish-chestnut, smooth above, wrinkle-striated beneath, aperture rather contracted.

FISCHER, Journ. Conch. vol. 5. p. 350. pl. 12. f. 1, 2.

Hab. Brazil.

This has very much the appearance of being a dwarf variety of *A. ringens*.

MONOGRAPH
OF THE GENUS
TRIDACNA.

"It was a garden still beyond all price,
Even yet it was a place of Paradise.
And here were coral bowers
And grotts of madrepores."—*Southey*.

MOZOGRAFI

ON THE FIRST

T R I D A C N A

It was a great deal of time and trouble
to get this book printed in London
and it was not until the year 1794
that it was published.



TRIDACNA.

PLATE I.

Genus TRIDACNA, Bruguière.

Testa ovata vel oblongo-ovata, æquivalvis, inæquilateralis, anticè ampliter hians, radiatim pauci-costata, costis plerumque squamatis. Cardo dentibus duobus in utràque valvâ compressis, inæqualibus, posticis, insertis. Ligamentum submarginale, externum.

Shell ovate or oblong-ovate, equivalve, inequilateral, largely gaping anteriorly, radiately few-ribbed, ribs generally scaled. Hinge with two posterior compressed interlocking teeth in each valve. Ligament submarginal, external.

The *Tridacnæ*, or Furbelowed Clams, one of which, *T. gigas*, is the largest of all mollusks, live in beds of some extent in lagunes among coral reefs, among the islands of the Eastern and Pacific seas. The shell is generally white, sometimes tinged with red and saffron or lemon-yellow, but the animal is brilliantly coloured. M. Quoy describes the beautiful iridescent glare of blue, violet, and yellow, variegated with fantastic markings, that is presented by these submarine parterres as seen through the clear blue water; and Mr. Cuming speaks with enthusiasm of passing over a mass of them nearly a mile in extent, which resembled nothing so much as a beautiful bed of tulips.

With the exception of *T. gigas*, from Navigators' Islands, all the species of which I have the habitat, are assigned to the Moluccas or Philippine Islands. The shells are mostly furbelowed with large high-vaulted scales, and all are white, occasionally tinged with red and saffron or lemon-yellow. The lunule of the shell is widely open for

the passage of a foot capable of spinning a powerful tendinous byssus.

Species 1. (Pl. I. Fig. 1 a; Pl. II. Fig. 1 b, c, Mus. Cuming.)

TRIDACNA GIGAS. *Trid. testâ maximâ, anticè subobliquè productâ, quadricostatâ, costis densè squamatis, squamis numerosis, creberrimis, ætate brevibus, plus minus obsoletis, interstitiis subobscurè radiatim liris; albâ, intus interdum roseâ.*

THE GIANT TRIDACNA. Shell very large, rather obliquely produced anteriorly, four-ribbed, ribs densely scaled, scales numerous, close-set, short and more or less obsolete with age, interstices rather obscurely radiately ridged; white, sometimes tinged within with rose.

Chama gigas, Linnæus, Syst. Nat. Gmel. edit. p. 3299.

Tridacna gigas and *mutica*, Lamarck.

Hab. Indian and Pacific seas.

This colossal species, which attains the enormous size of from six to seven hundred pounds weight, may be distinguished in all its stages of growth by a tendency to radiate anteriorly in an oblique direction, and by the closely-scaled character of the ribs. The ribs are broad, only four in number, and as the shell increases in age the scales become shorter, closer-set, and more obscure. In the shell represented in the opposite plate the interior is tinged with deep rose-colour.

June, 1862.

TRIDACNA.

Plate I.

The following is a description of the species of Tridacna.

Tridacna I. (Fig. 1.)

This species is distinguished by its large size, and the fact that it is the only one of the genus which is found in the United States.

The body is elongated, and the head is large and broad. The eyes are large and prominent. The legs are short and stout. The color is a uniform brown.

This species is found in the United States, and is the only one of the genus which is found in the United States.

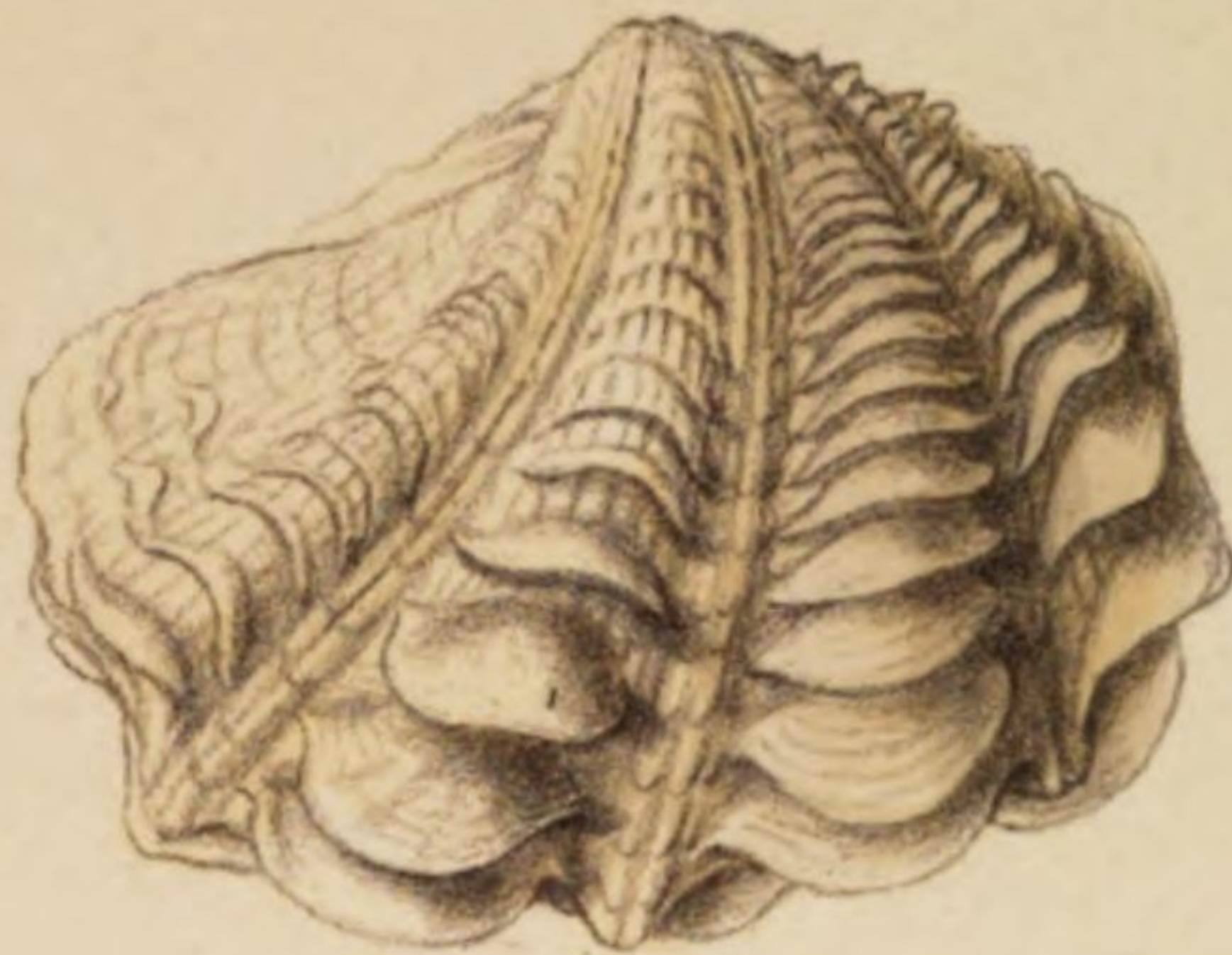
Tridacna II. (Fig. 2.)

This species is distinguished by its small size, and the fact that it is the only one of the genus which is found in the United States.

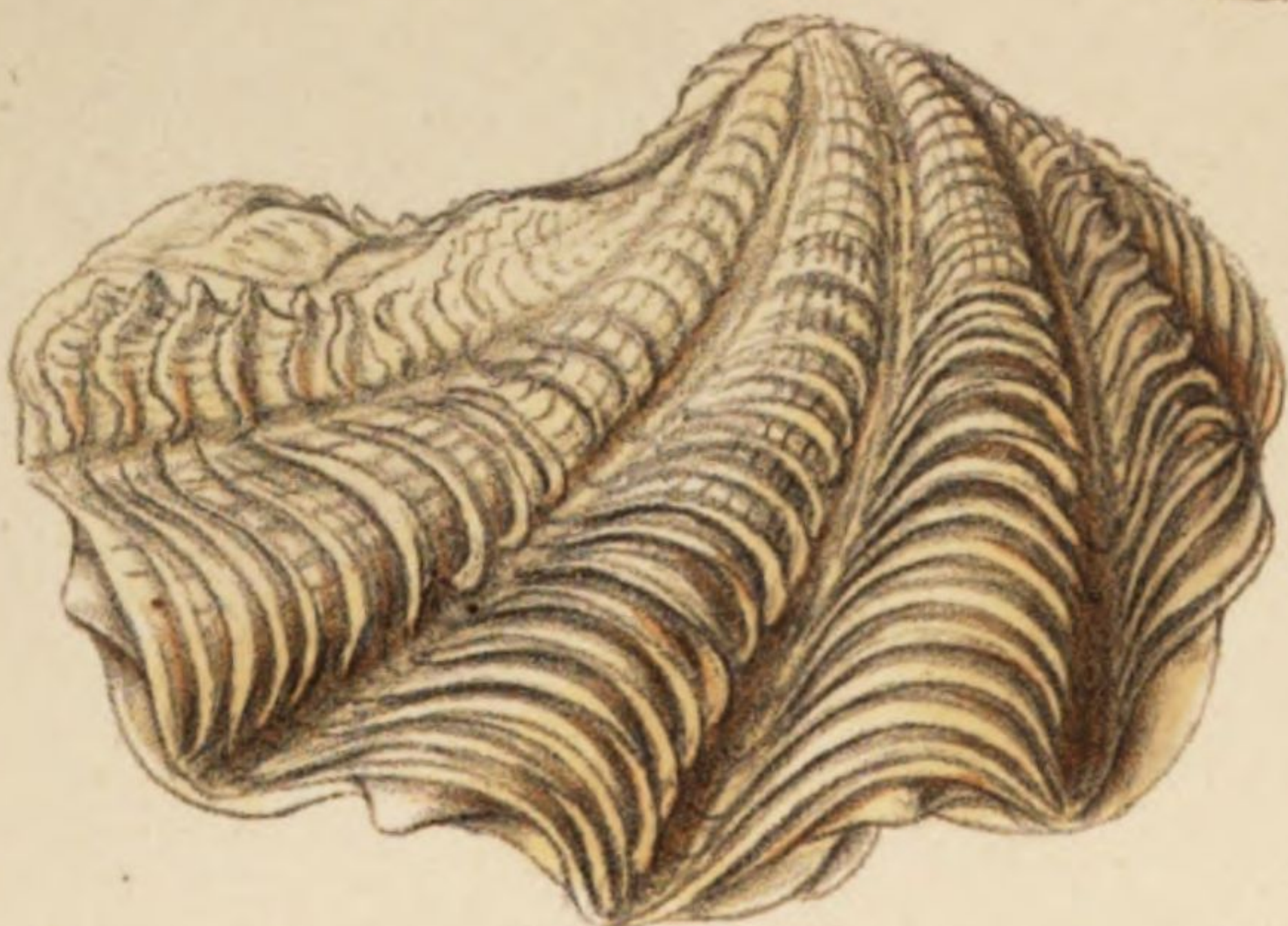
The body is elongated, and the head is large and broad. The eyes are large and prominent. The legs are short and stout. The color is a uniform brown.

This species is found in the United States, and is the only one of the genus which is found in the United States.

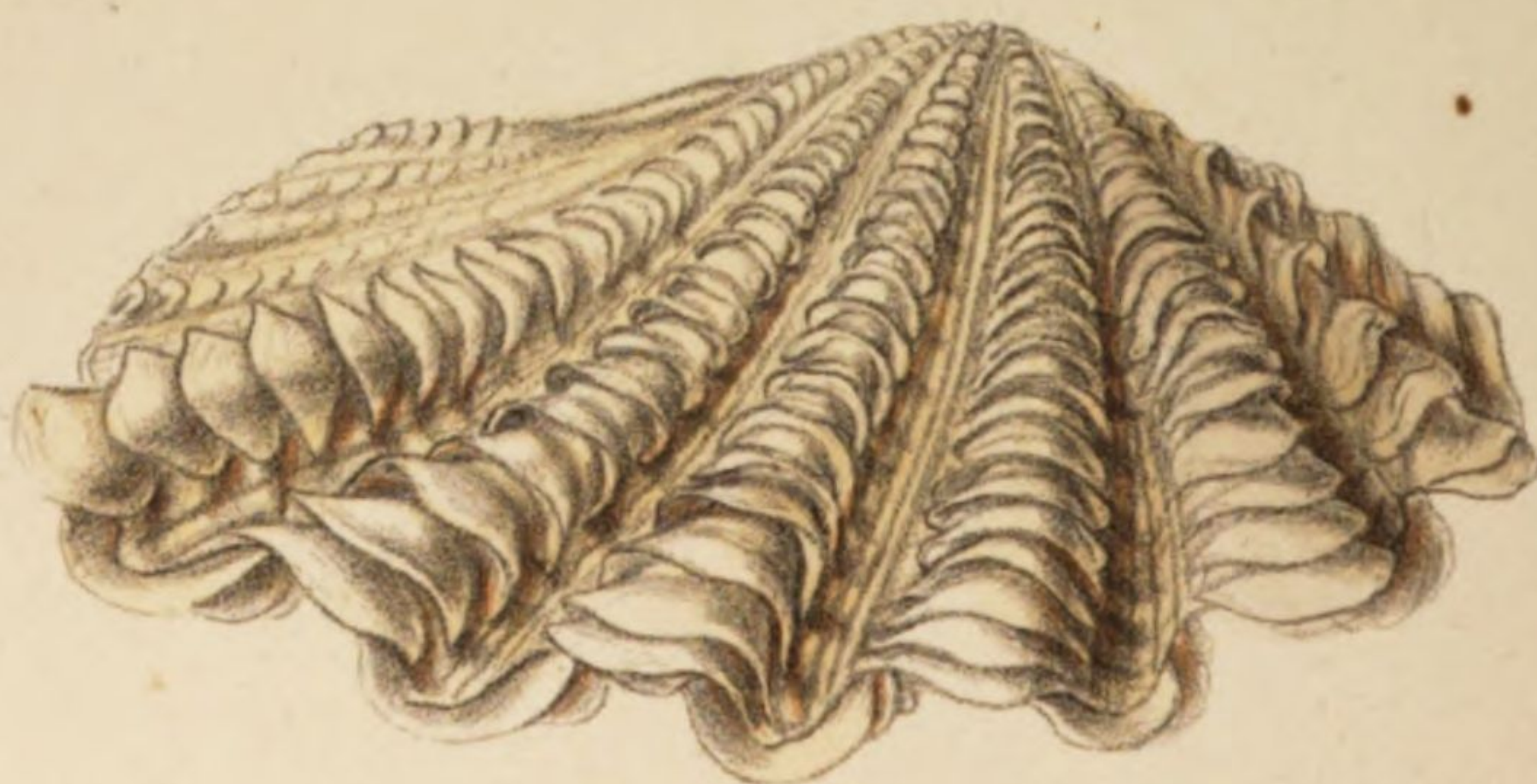
Tridacna Pl. II.



1b.



1c.



2a.



2b.

TRIDACNA.

PLATE II.

Species 1. (Fig. *b, c*, Mus. Cuming.)

The shells here figured represent the great *T. gigas* in an early stage of growth. At first, Fig. 1 *b*, the scales are lofty, very regular, and neatly-defined. Presently they become eroded and worn down, whilst the successive additions of scales, as shown at Fig. 1 *c*, are shorter and closer set. Lastly, as in the specimen represented in Plate I., the development of the scales is reduced to a mere crowded incrustation of rude layers of growth.

Species 2. (Fig. *a, b*, Mus. Cuming.)

TRIDACNA ELONGATA. *Trid. testā ovato-oblongā, anticē elongato-productā, quinque- ad sex-costatā, costis convexis, regulariter et subconfertim squamatis, inter-*

stitiis inter costas biliratis, inter squamas levibus; albā vel citrinā.

THE ELONGATED TRIDACNA. Shell ovately oblong, anteriorly elongately produced, five- to six-ribbed, ribs convex, regularly and rather closely scaled, interstices between the ribs two-ridged, between the scales smooth; white or lemon-yellow.

LAMARCK, Anim. sans vert. vol. vii. p. 9.

Hab. Philippine Islands; Cuming.

The elongately-produced growth of this species gives a peculiarly gibbous form to the shell; and it retains this characteristic contour in all stages. In the British Museum there is a specimen of quite colossal dimensions, of precisely the same form. The scales are very regularly set throughout the ribs in neatly-defined furbelows.

June, 1862.

TRIPALNA.

Part II.

Chapter I. The City of Tripalna.

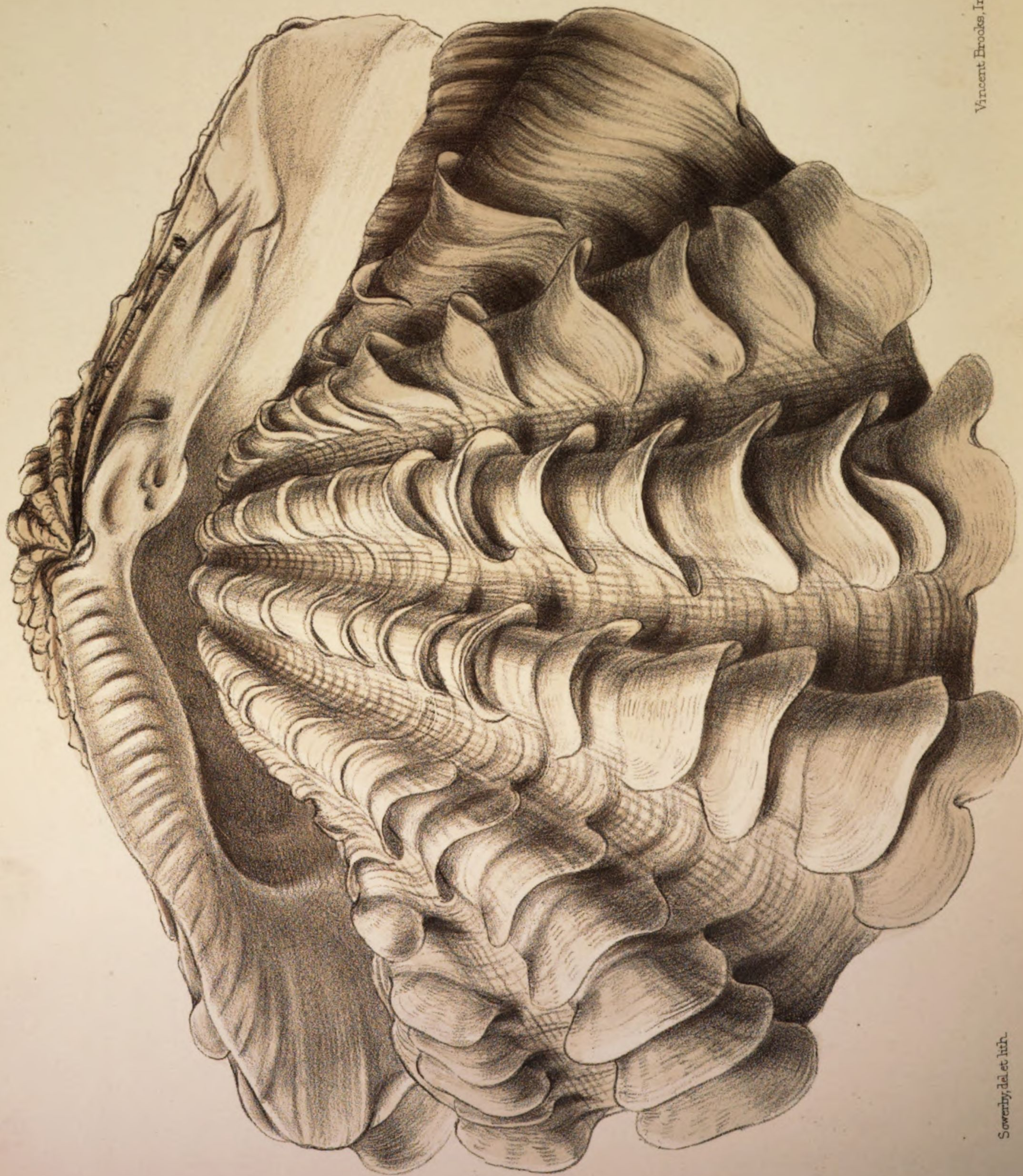
The city of Tripalna is situated on the right bank of the river Tripalna, about 10 miles from the mouth of the river. It is a small town, but it is one of the most important in the district. It is the seat of the district court, and it is the centre of the district. It is a very old town, and it has a long history. It was founded by the Tripalnas, and it has been the capital of the district ever since. It is a very beautiful town, and it is well known for its architecture. It is a very important town, and it is one of the most important in the district.

Chapter II. The District of Tripalna.

The district of Tripalna is one of the most important in the district. It is a very large district, and it is well known for its agriculture. It is a very important district, and it is one of the most important in the district. It is a very beautiful district, and it is well known for its architecture. It is a very important district, and it is one of the most important in the district.

The district of Tripalna is one of the most important in the district. It is a very large district, and it is well known for its agriculture. It is a very important district, and it is one of the most important in the district. It is a very beautiful district, and it is well known for its architecture. It is a very important district, and it is one of the most important in the district.

The district of Tripalna is one of the most important in the district. It is a very large district, and it is well known for its agriculture. It is a very important district, and it is one of the most important in the district. It is a very beautiful district, and it is well known for its architecture. It is a very important district, and it is one of the most important in the district.



TRIDACNA.

PLATE III.

Species 3. (Fig *a*, Mus. Brit., and Pl. IV. Fig. *b, c, d*,
Mus. Cuming.)

TRIDACNA SQUAMOSA. *Trid. testá ovatá, quadri- ad quin-
que-costatá, costis elevato-convexis, distantibus, fim-
briato-squamatis, squamis peramplis, distantibus,
erectis, fornicatis, costarum interstitiis decussatim
multistriatis; albá vel croceá, interdum rubente
tinctá.*

THE SCALED TRIDACNA. Shell ovate, four- to five-ribbed,
ribs elevately convex, distant, fimbriately scaled,
scales very large, distant, erect, vaulted, interstices

between the ribs decussately many-striated; white
or saffron-yellow, sometimes tinged with red.

LAMARCK, Anim. sans vert. vol. vii. p. 10.

Hab. Moluccas.

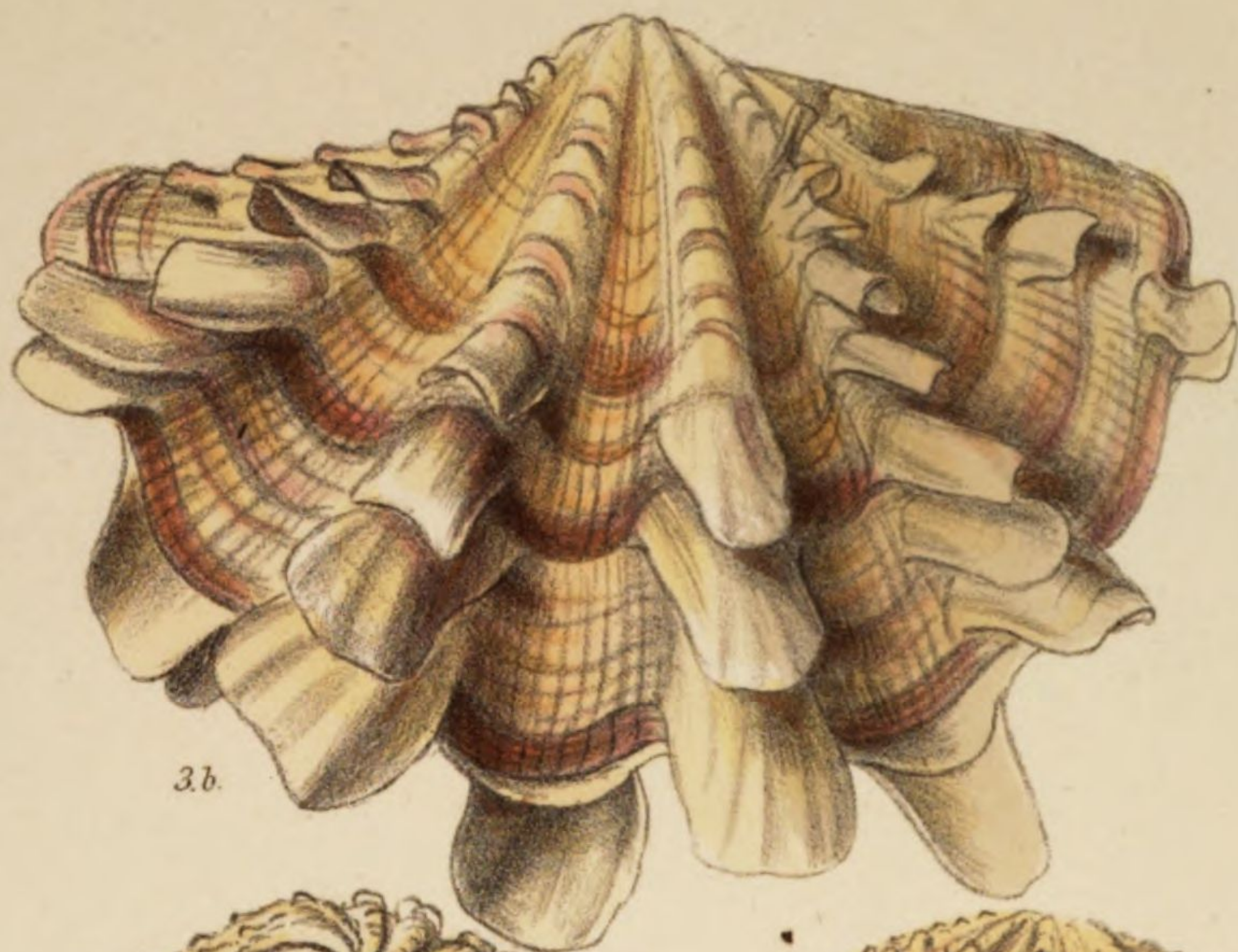
This well-known species is characterized by a much
more symmetrical growth than *T. gigas*. It has no ten-
dency to radiate obliquely, and the scales are developed
throughout with amplitude and precision. The ribs are
raised and tumidly convex, whilst the interstices between
them are spacious and decussated throughout with im-
pressed striæ.

June, 1862.

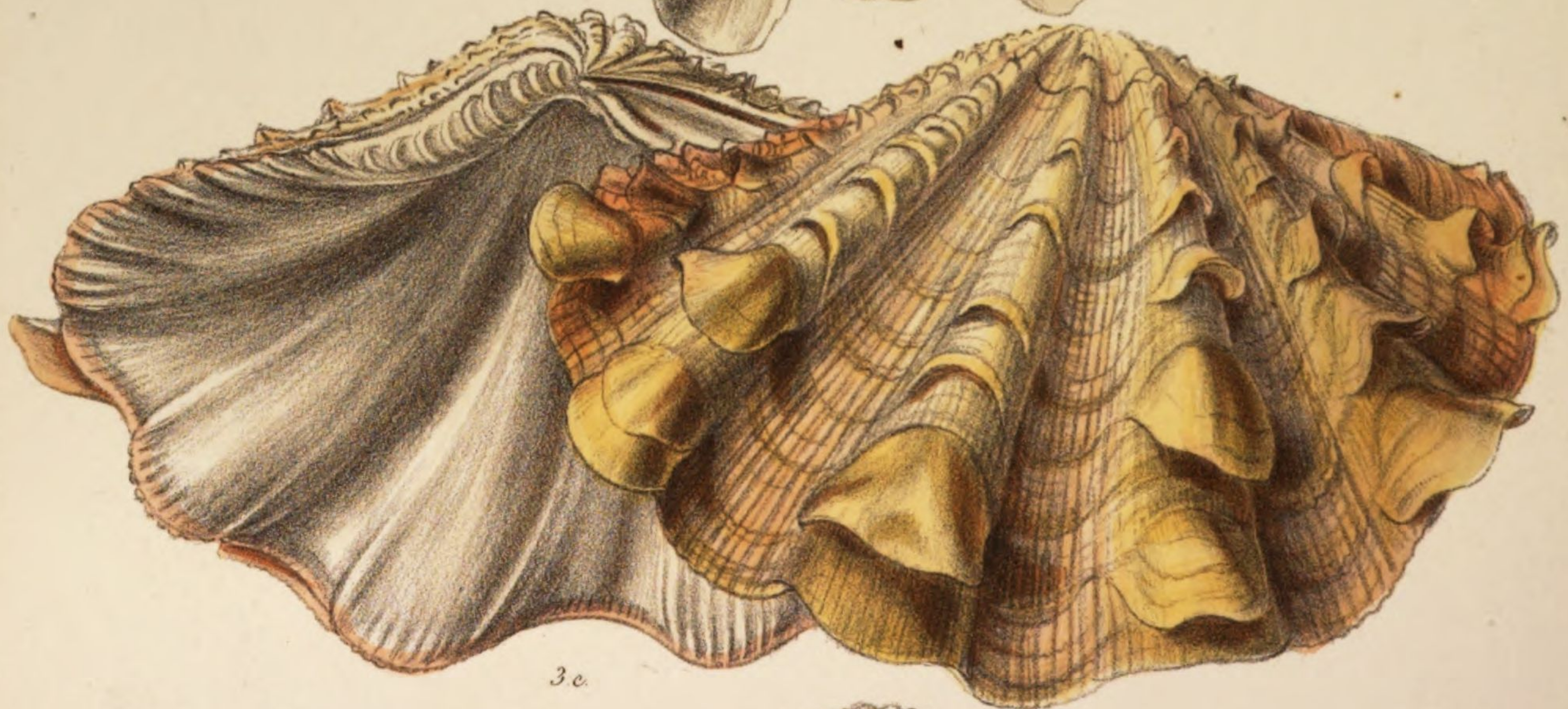
THIRDACTA

The first of the three species of the genus Thiridacta is Thiridacta (Thiridacta) ...
The second species is Thiridacta (Thiridacta) ...
The third species is Thiridacta (Thiridacta) ...

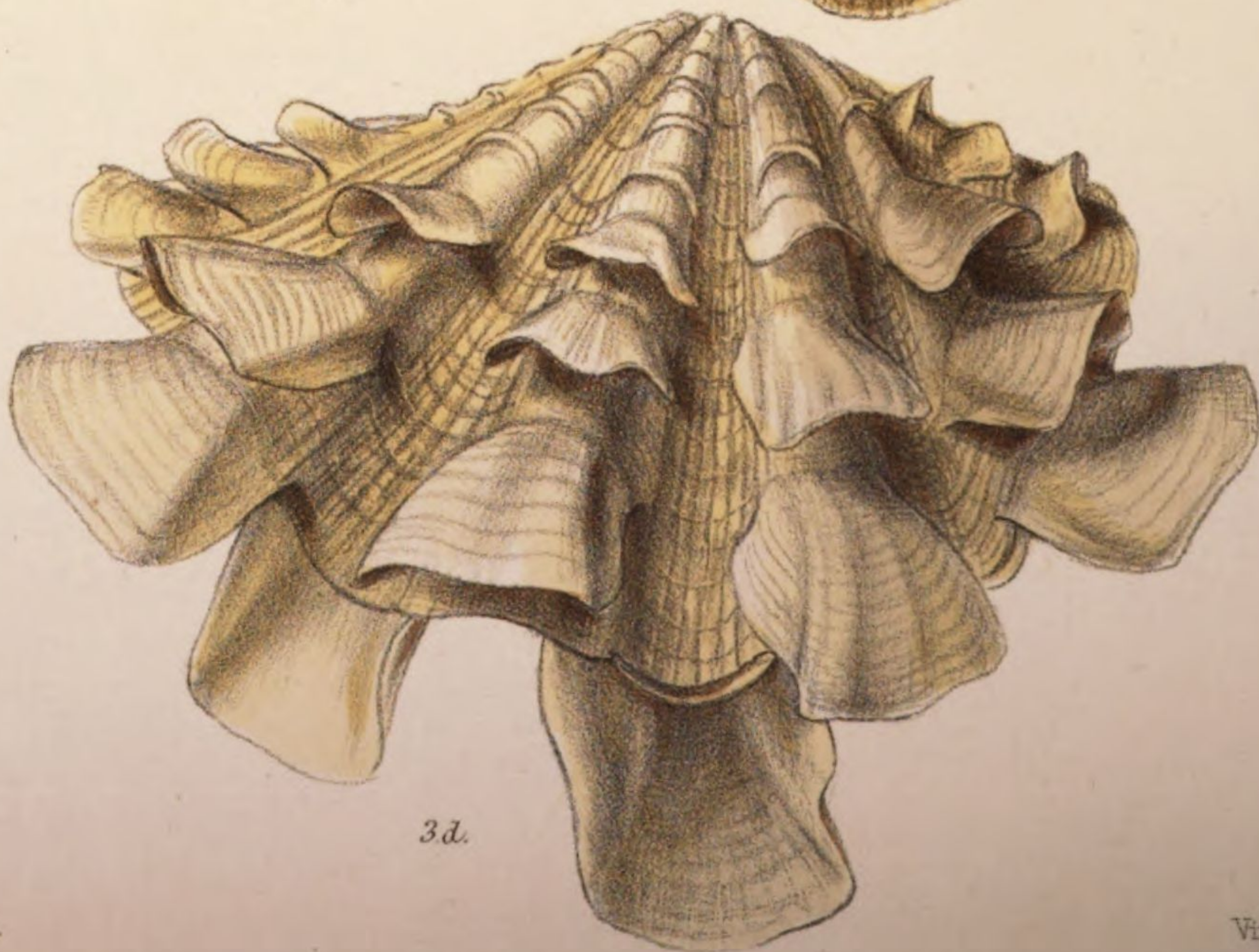
Thiridacta



3b.



3c.



3d.

TRIDACNA.

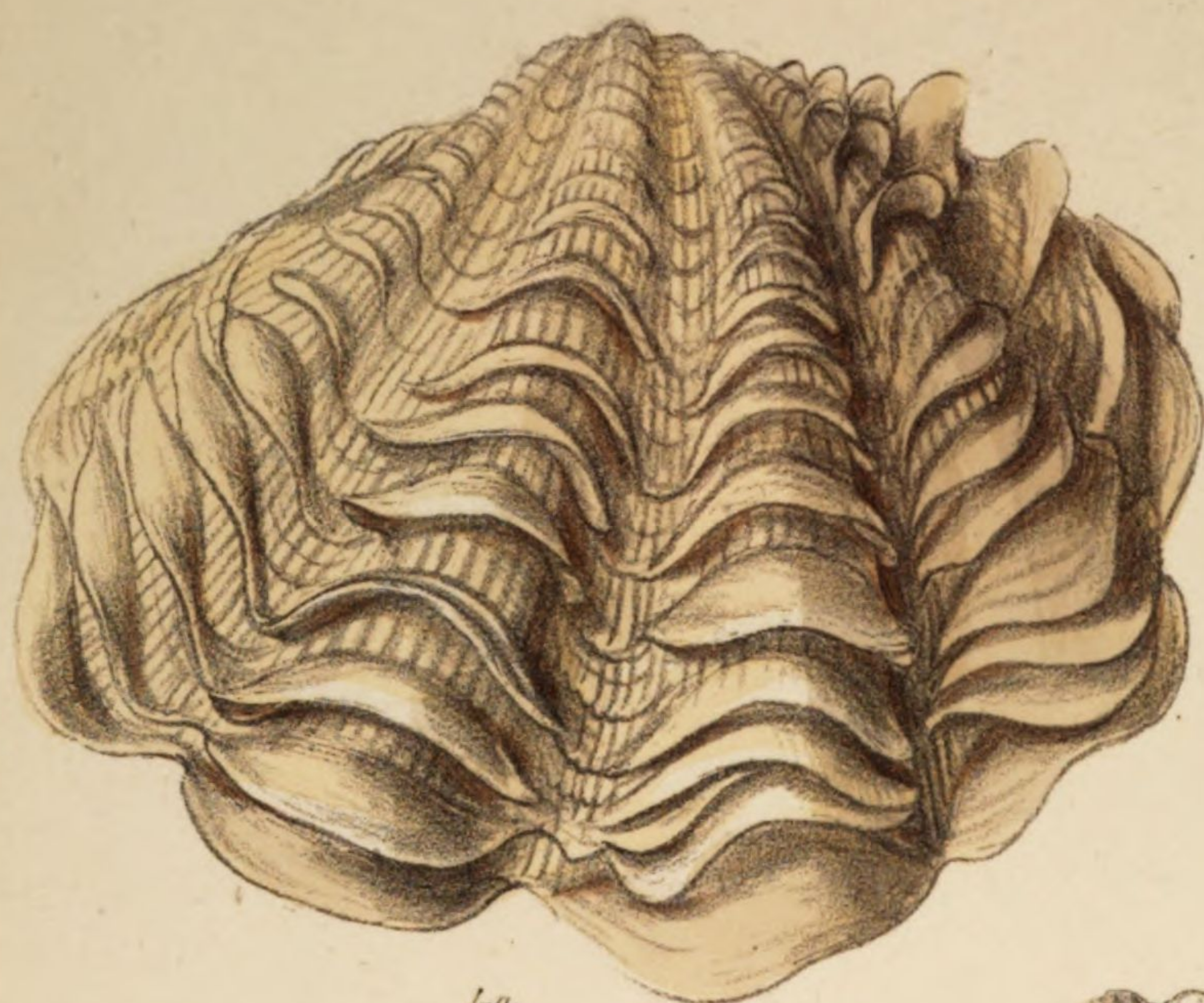
PLATE IV.

Species 3. (Fig. *b*, *c*, *d*, Mus. Cuming.)

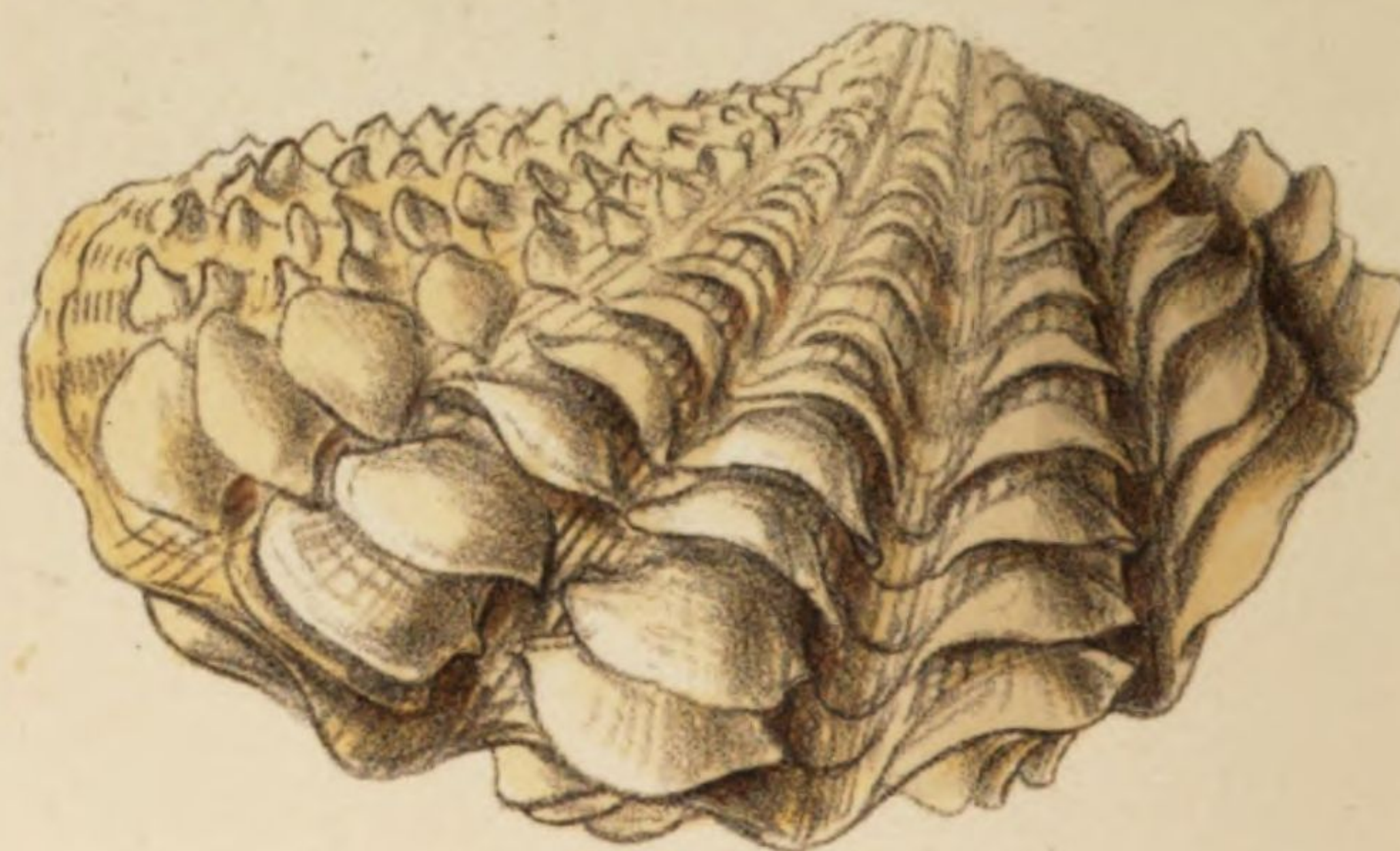
TRIDACNA SQUAMOSA. In this Plate are examples of three coloured varieties of the species described at Plate III. The specimen, Fig. 3 *b*, is white, tinged concentrically, not in rays, with pale orange-red. At Fig. 3 *c* the shell is of a dark saffron-yellow, with a mixture of red

that gives it an orange tone. At Fig. 3 *d* the shell is white, with a tinge of lemon-yellow without red. In all the scales or furbelows are largely developed, and in the shells of the upper and lower figures they are white; the colour described in those specimens being confined to the ground of the shell.

June, 1862.



4.a.



4.b.



4.c.

TRIDACNA.

PLATE V.

Species 4. (Fig. *a, b, c*, Mus. Cuming.)

TRIDACNA RUDIS. *Trid. testâ gibboso-ovatâ, rudi, quadriad quinque-costatâ, costis latiusculis, parum elevatis, radiatim liratis, squamatis, squamis numerosis, valdè irregularibus, hic illic continuis, costarum interstitiis angustis, radiatim liratis; albâ.*

THE RUDE TRIDACNA. Shell gibbously ovate, rude, four-to five-ribbed, ribs rather broad, but little raised, radiately ridged, scaled, scales numerous, very irregular, here and there continuous, interstices between the ribs narrow, radiately ridged; white.

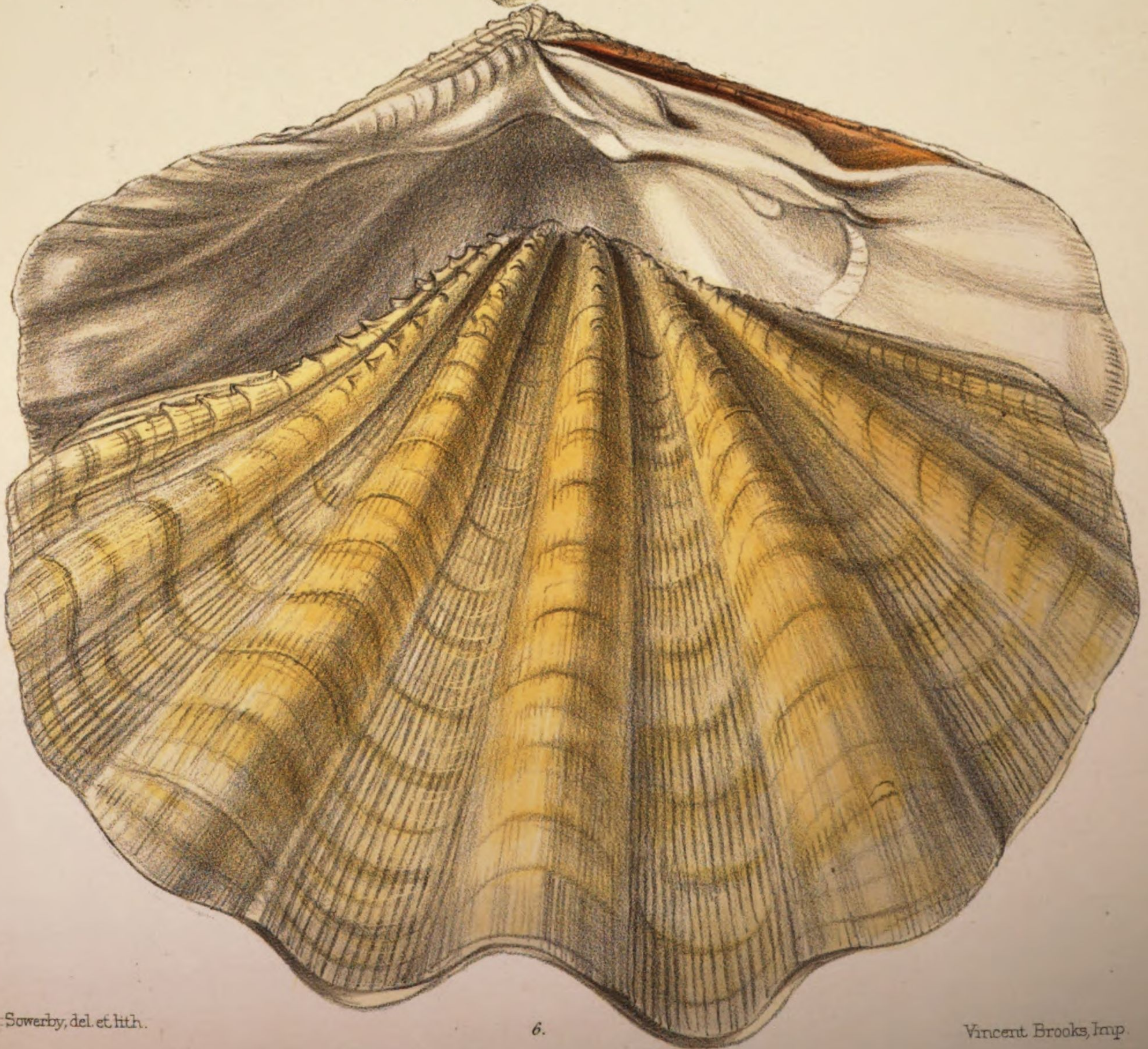
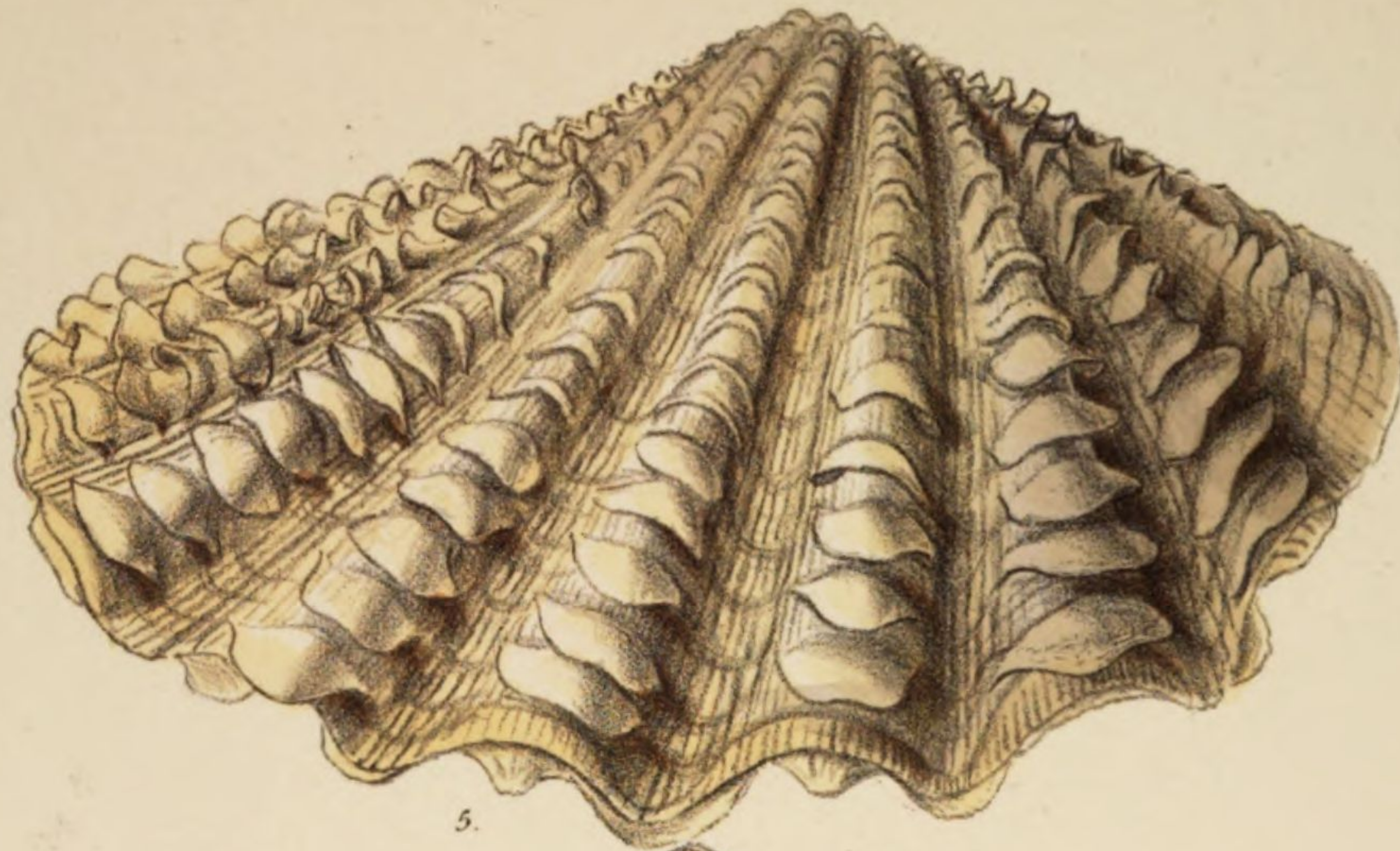
Hab. Philippine Islands; Cuming.

The shells figured in this plate represent a very characteristic form of *Tridacna*, certainly distinct from *T. squa-*

mosa, and apparently distinct from *T. gigas*. They have not the anterior obliquity which is peculiar to *T. gigas*, as shown both in the large specimens, Plate I., and the small specimens given in Plate II. Another feature in *T. rudis* is that the ribs are conspicuously radiately ridged throughout between the scales. The scales are very irregular, running in some places continuously over the intercostal furrows, and the whole shell is singularly uncouth and unsymmetrical.

In the species represented at Plate II., Fig. 1 *b, c*, which I take to be the young of *T. gigas*, there are no radiating ridges between the scales; and the shell is characterized by the same obliquity of the anterior portion seen in the larger shell figured in Plate I.

June, 1862.



TRIDACNA.

PLATE VI.

Species 5. (Fig. 5 *a*; and Pl. VII. Fig. 5 *b*, *c*.)

TRIDACNA COMPRESSA. *Trid. testâ ovatâ, compressâ, sex-costatâ, costis latiusculis, radiatim liratis, densè squamatis, squamis parvulis, erectis, costarum interstitiis radiatim liratis, liris tribus centralibus prominentioribus; albâ, interdum pallidè citrino tinctâ.*

THE COMPRESSED TRIDACNA. Shell ovate, compressed, six-ribbed, ribs rather broad, radiately ridged, densely scaled, scales rather small, erect, interstices between the ribs ridged, the three central ridges being the more prominent; white, sometimes tinged with pale lemon-colour.

Hab. — ?

Either this is a species or it is a non-elongated form of *T. elongata*. In a genus like *Tridacna*, where the species are so numerous and the varieties so variable, some licence in naming is really useful to distinguish them. In the present instance, the shell is broader from the umboes to the margin and more compressed than that of the typical *T. elongata*, and the scales are smaller in proportion to the width of the ribs, more distant, and more erect. All this, it may nevertheless be argued, is a correlation of growth arising out of the compression of the valves. At Plate

VII., Fig. 5 *b* and 5 *c*, are represented younger specimens of the same form.

Species 6. (Mus. Cuming.)

TRIDACNA SERRIFERA. *Trid. testâ latè ovatâ, compressiusculâ, tenuiculâ, tri-quadri-costatâ, costis interstitiisque amplis, nudis, radiatim sulcato-striatis, striis in interstitiis fortioribus, marginibus anticis squamoso-serratis; albâ vel pallidè citrinâ.*

THE SERRATED TRIDACNA. Shell broadly ovate, rather compressed, somewhat thin, three- to four-ribbed, ribs and interstices large, scaleless, radiately groove-striated, striæ stronger in the interstices, anterior margins scale-serrated; white or pale lemon-colour.

LAMARCK, Anim. sans vert. vol. vii. p. 11.

Hab. Moluccas.

The character of this species is to be without scales, except on the anterior margins, where they are short and often nearly obsolete. But it not unfrequently happens, as in the specimen figured, that all the ribs are serrated with minute rudely-developed scales in the vicinity of the umboes. The shell is very copiously groove-striated throughout, and the striæ are much stronger in the interstices between the ribs than upon them.

June, 1862.

TRIDACNA

PLATE VI

Fig. 1. Tridacna (Linn.)
in the same form.

Fig. 2. Tridacna (Linn.)

The specimen is a small, dark, elongated, and slightly curved object, possibly a fossil or a mineral specimen. It is shown in a side view, highlighting its overall shape and texture. The surface appears somewhat granular or crystalline.

Fig. 3. Tridacna (Linn.)

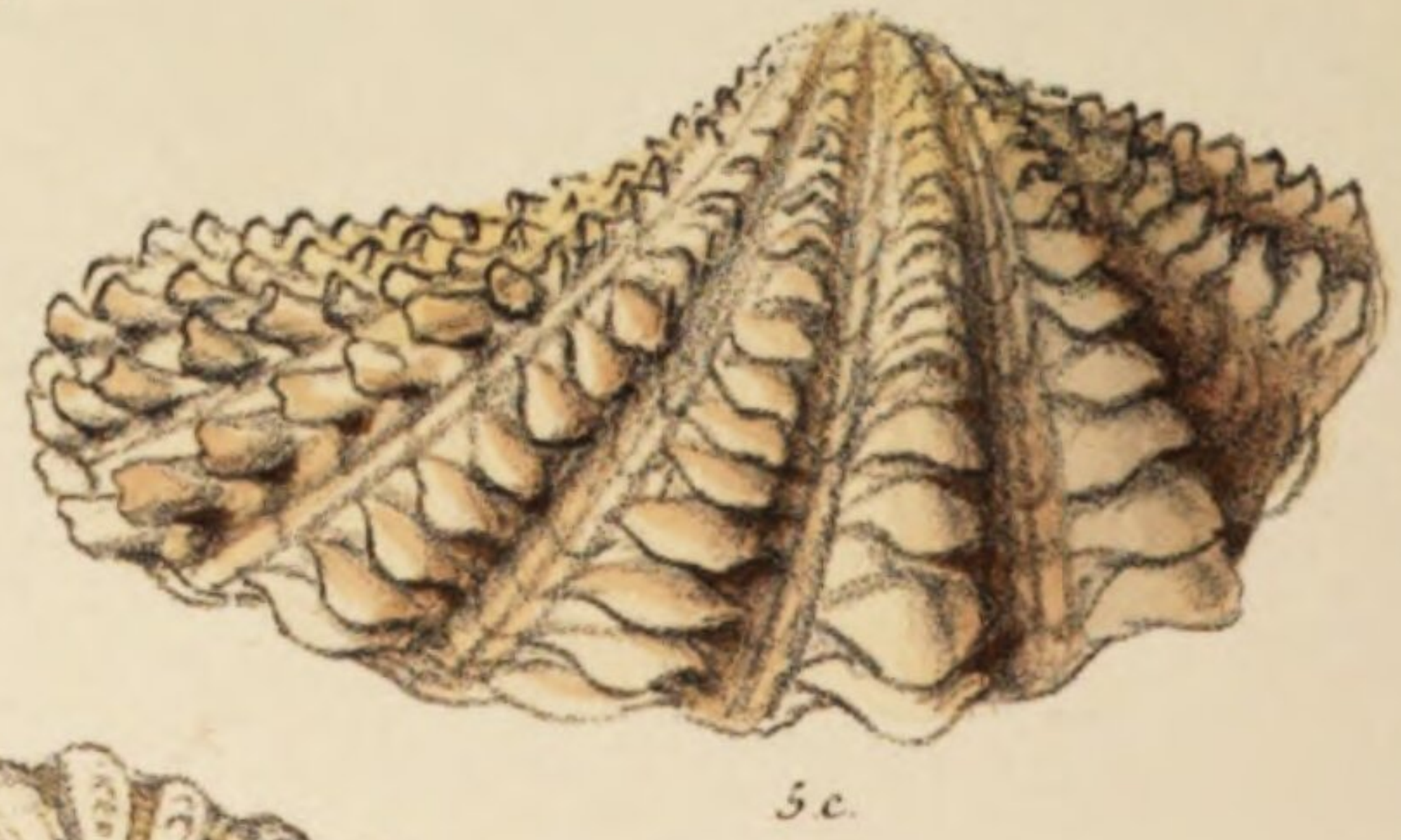
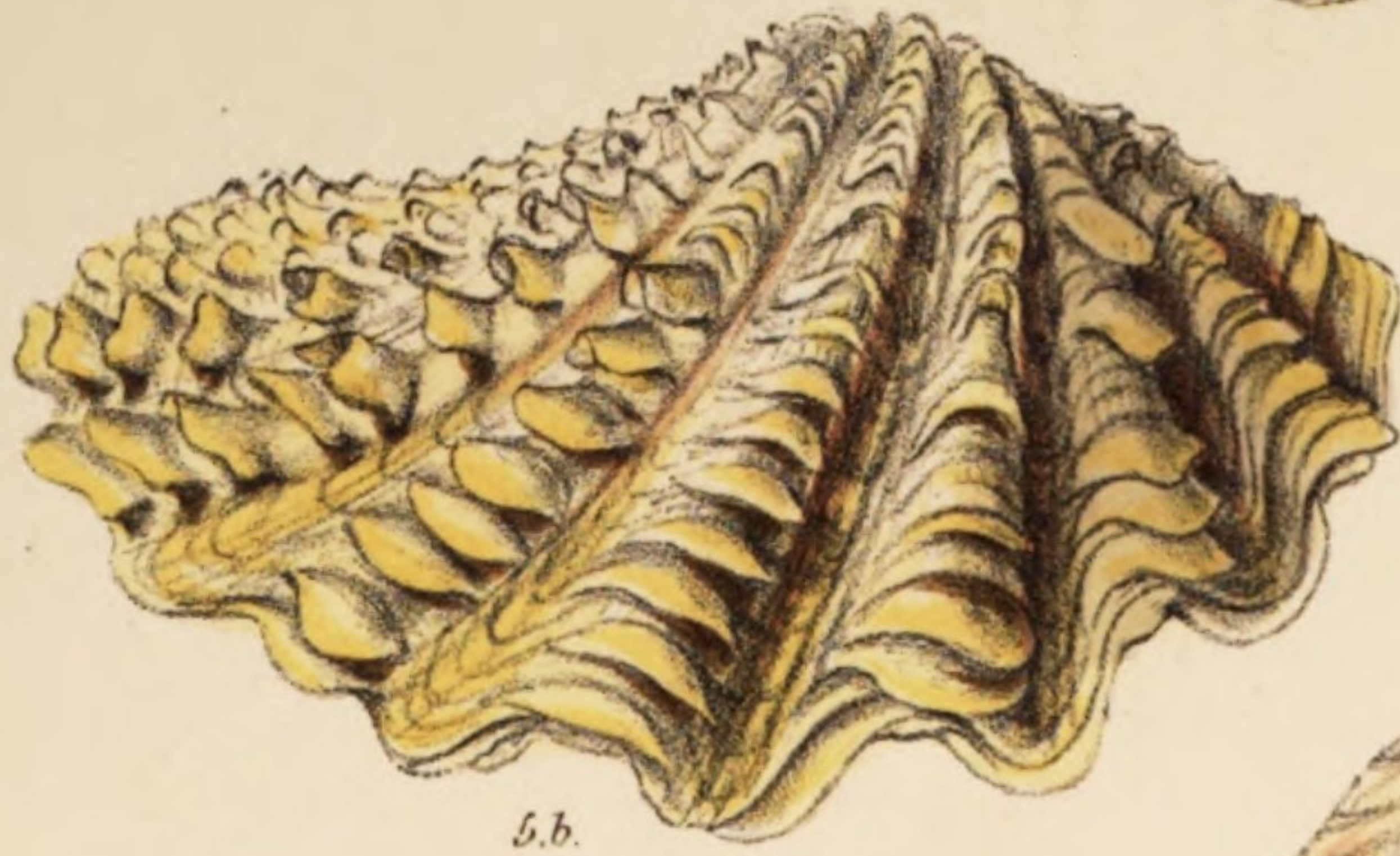
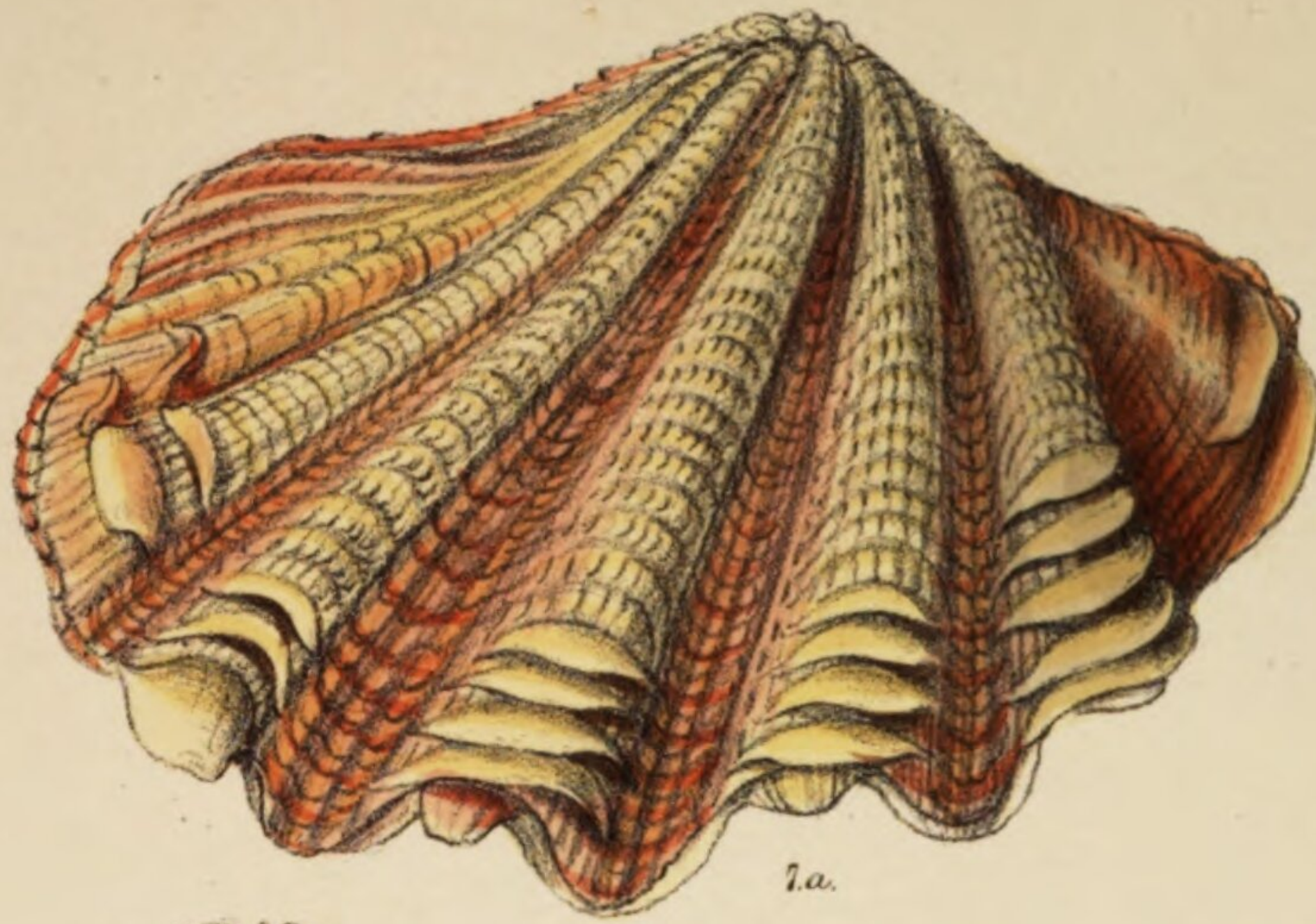
This specimen is a small, dark, elongated, and slightly curved object, possibly a fossil or a mineral specimen. It is shown in a side view, highlighting its overall shape and texture. The surface appears somewhat granular or crystalline.

Fig. 4. Tridacna (Linn.)

The specimen is a small, dark, elongated, and slightly curved object, possibly a fossil or a mineral specimen. It is shown in a side view, highlighting its overall shape and texture. The surface appears somewhat granular or crystalline.

Fig. 5. Tridacna (Linn.)

This specimen is a small, dark, elongated, and slightly curved object, possibly a fossil or a mineral specimen. It is shown in a side view, highlighting its overall shape and texture. The surface appears somewhat granular or crystalline.



TRIDACNA.

PLATE VII.

Species 7. (Fig. *a*, *b*, Mus. Cuming.)

TRIDACNA CUMINGII. *Trid. testâ ovatâ vel oblongo-ovatâ, gibbosiusculâ, quadri- ad quinque-costatâ, costis conspicuè radiatim liratis, nitidè regulariter squamatis, squamis erectis, costarum interstitiis copiosè corrugato-liratis; costis squamisque citrinis, costarum interstitiis vividè rufescente-croceis.*

CUMING'S TRIDACNA. Shell ovate or oblong-ovate, rather gibbous, four- to five-ribbed, ribs conspicuously radiately ridged, neatly regularly scaled, scales erect, interstices between the ribs copiously wrinkle-ridged; ribs and scales lemon-yellow, interstices between the ribs bright reddish-saffron.

Hab. Philippine Islands; Cuming.

This very beautiful *Tridacna*, of which specimens are

represented in our Plate, in different stages of growth, appears to be very distinct from any hitherto described. The ribs and scales are of a delicate lemon-colour throughout, while the interstices are of a rich reddish-saffron. It is very neatly scaled, and the radiating ridges in the interstices between the ribs have a peculiar interruptedly-wrinkled character.

Fig. 5 *b*, *c*, (Mus. Cuming.)

The specimens here figured are intended to illustrate *T. compressa*, as distinguished from *T. elongata*, in an earlier stage of growth than the specimen described and figured in the preceding Plate. That at Fig. 5 *b* is a pale lemon-colour.

June, 1862.

TRIDACNA.

PLATE III.

Species I. (Fig. 1. & 2. Plate I.)

Tribes: Cymatodonta. This tribe is the most numerous and the most important of the group. It is characterized by the presence of a large, central, triangular, or sub-triangular, area of the body, which is often surrounded by a narrow, dark, border. The color of the body is usually light, and the texture is often smooth or slightly granular.

Genus: *Tribes*. This genus is the most numerous and the most important of the group. It is characterized by the presence of a large, central, triangular, or sub-triangular, area of the body, which is often surrounded by a narrow, dark, border. The color of the body is usually light, and the texture is often smooth or slightly granular.

Mr. Phillips, London, England.

The very beautiful, and the most important of the group.

represented in our plates in different stages of growth. It is the most numerous and the most important of the group. It is characterized by the presence of a large, central, triangular, or sub-triangular, area of the body, which is often surrounded by a narrow, dark, border. The color of the body is usually light, and the texture is often smooth or slightly granular.

Fig. 1. & 2. (Plate I.)

The specimens shown in our plates are of the same species, but they are of different sizes. The color of the body is usually light, and the texture is often smooth or slightly granular. The very beautiful, and the most important of the group.

PLATE IV.



TRIDACNA.

PLATE VIII.

Species 8. (Fig. *a, b*, Mus. Cuming.)

TRIDACNA FERRUGINEA. *Trid. testā suboblongo-ovatā, quinque-costatā, costis parum elevatis, ad latera subobsoletis, densè squamato-serratis, interstitiis triliratis; sordidè albā, versus marginem ferrugineo tinctā.*

THE RUST-STAINED TRIDACNA. Shell rather oblong-ovate, five-ribbed, ribs but little raised, almost obsolete at the sides, densely scale-serrated, interstices two- to three-ridged; dead white, rust-stained towards the margin.

Hab. — ?

This appears to me to be very generally distinguished from *T. crocea*, to which it is the nearest allied, by its more oblong form and rust-brown colouring. The same distinctions of character may be observed in young specimens of the respective species as given at Fig. 8 *b* and 9 *a*.

Species 9. (Fig. *a, b*, Mus. Cuming.)

TRIDACNA CROCEA. *Trid. testā latè ovatā, versus umbones gibbosiusculā, quinque-costatā, costis parum elevatis, densè squamato-serratis, interstitiis subobscurè triliratis; albidā, croceo-rubente tinctā et concentricè undatā.*

THE SAFFRON TRIDACNA. Shell broadly ovate, rather gibbose towards the umboes, five-ribbed, ribs but little elevated, densely scale-serrated, interstices rather obscurely three-ridged; whitish, stained and concentrically waved with saffron-red.

LAMARCK, Anim. sans vert. vol. vii. p. 10.

Hab. Philippine Islands; Cuming.

In consequence of the lunule of this species gaping more largely than usual, the shell is very gibbous about the umboes, and attenuately pinched at the margin. The ribs are but superficially developed, and the scales are merely stunted imbrications.

June, 1862.

ARTICLE

1911

Section 1. The purpose of this article is to provide a comprehensive review of the current state of research in the field of [illegible] and to discuss the implications of these findings for clinical practice. The article is organized into several sections, each dealing with a different aspect of the topic. The first section discusses the basic principles of [illegible] and the methods used to study it. The second section reviews the most recent findings in the field, and the third section discusses the implications of these findings for clinical practice. The fourth section discusses the limitations of the current research and the need for further studies. The fifth section discusses the ethical considerations involved in the study of [illegible] and the need for careful oversight. The sixth section discusses the future of the field and the potential for new discoveries. The seventh section discusses the role of the medical profession in the study of [illegible] and the need for continued education and training. The eighth section discusses the role of the patient in the study of [illegible] and the need for informed consent. The ninth section discusses the role of the community in the study of [illegible] and the need for public education and involvement. The tenth section discusses the role of the government in the study of [illegible] and the need for funding and regulation. The eleventh section discusses the role of the media in the study of [illegible] and the need for accurate reporting. The twelfth section discusses the role of the public in the study of [illegible] and the need for active participation. The thirteenth section discusses the role of the private sector in the study of [illegible] and the need for collaboration and partnership. The fourteenth section discusses the role of the international community in the study of [illegible] and the need for global cooperation. The fifteenth section discusses the role of the future generations in the study of [illegible] and the need for sustainable development. The sixteenth section discusses the role of the environment in the study of [illegible] and the need for protection and preservation. The seventeenth section discusses the role of the culture in the study of [illegible] and the need for respect and understanding. The eighteenth section discusses the role of the religion in the study of [illegible] and the need for faith and hope. The nineteenth section discusses the role of the philosophy in the study of [illegible] and the need for wisdom and knowledge. The twentieth section discusses the role of the art in the study of [illegible] and the need for beauty and harmony. The twenty-first section discusses the role of the science in the study of [illegible] and the need for truth and justice. The twenty-second section discusses the role of the technology in the study of [illegible] and the need for innovation and progress. The twenty-third section discusses the role of the industry in the study of [illegible] and the need for efficiency and productivity. The twenty-fourth section discusses the role of the education in the study of [illegible] and the need for learning and growth. The twenty-fifth section discusses the role of the health care in the study of [illegible] and the need for care and compassion. The twenty-sixth section discusses the role of the society in the study of [illegible] and the need for order and stability. The twenty-seventh section discusses the role of the world in the study of [illegible] and the need for peace and unity. The twenty-eighth section discusses the role of the universe in the study of [illegible] and the need for awe and wonder. The twenty-ninth section discusses the role of the cosmos in the study of [illegible] and the need for mystery and magic. The thirtieth section discusses the role of the gods in the study of [illegible] and the need for devotion and worship. The thirty-first section discusses the role of the spirits in the study of [illegible] and the need for protection and guidance. The thirty-second section discusses the role of the angels in the study of [illegible] and the need for inspiration and enlightenment. The thirty-third section discusses the role of the demons in the study of [illegible] and the need for exorcism and deliverance. The thirty-fourth section discusses the role of the devils in the study of [illegible] and the need for temptation and temptation. The thirty-fifth section discusses the role of the witches in the study of [illegible] and the need for magic and witchcraft. The thirty-sixth section discusses the role of the wizards in the study of [illegible] and the need for power and magic. The thirty-seventh section discusses the role of the sorcerers in the study of [illegible] and the need for knowledge and magic. The thirty-eighth section discusses the role of the magicians in the study of [illegible] and the need for skill and magic. The thirty-ninth section discusses the role of the enchanters in the study of [illegible] and the need for charm and magic. The fortieth section discusses the role of the spellcasters in the study of [illegible] and the need for incantation and magic. The forty-first section discusses the role of the wizards in the study of [illegible] and the need for power and magic. The forty-second section discusses the role of the sorcerers in the study of [illegible] and the need for knowledge and magic. The forty-third section discusses the role of the magicians in the study of [illegible] and the need for skill and magic. The forty-fourth section discusses the role of the enchanters in the study of [illegible] and the need for charm and magic. The forty-fifth section discusses the role of the spellcasters in the study of [illegible] and the need for incantation and magic. The forty-sixth section discusses the role of the wizards in the study of [illegible] and the need for power and magic. The forty-seventh section discusses the role of the sorcerers in the study of [illegible] and the need for knowledge and magic. The forty-eighth section discusses the role of the magicians in the study of [illegible] and the need for skill and magic. The forty-ninth section discusses the role of the enchanters in the study of [illegible] and the need for charm and magic. The fiftieth section discusses the role of the spellcasters in the study of [illegible] and the need for incantation and magic.

MONOGRAPH
OF THE GENUS
HIPPOPUS.

“O happy living things! no tongue
Their beauty might declare:
A spring of love gushed from my heart,
And I bless'd them unaware.”—*Coleridge*.

MONOGRAPH

OF THE

H I P P O C R A T E S

THE
H I P P O C R A T E S
THE
H I P P O C R A T E S



HIPPOPUS.

PLATE I.

Genus HIPPOPUS, Meuschen.

Testa æquivalvis, regularis, inæquilateralis, lunulâ fere clausâ. Cardo dentibus duobus compressis inæqualibus posticis insertis. Ligamentum marginale, externum.

Shell equivalve, regular, inequilateral, with the lunule almost closed. Hinge composed of two unequal, compressed, posterior teeth, interlocking with one another. Ligament marginal, external.

The genus *Hippopus*, of which the well-known *Chama hippopus* of Linnæus is still the only species known, differs from *Tridacna*, the nearest allied form, in having the lunule, the anterior concave depression of the shell, nearly closed. It will be readily understood, therefore, that the animal has very little, if any, byssus. It seems strange that no second species of this well-defined generic type should have been discovered, but such is the fact. *Hippopus maculatus* has been known for more than a century, and is collected and imported in great abundance from the Eastern seas.

Species 1. (Mus. Brit.)

HIPPOPUS MACULATUS. *Hipp. testâ subtrigono-ovatâ, trapeziformi, anticè latè lunulatâ, medio ventricosâ, versus latera constrictâ, radiatim costatâ et liratâ, profusè squamatâ, squamis parvis, foliolatis, spinoso-imbricatis; marmoreo-albâ, purpureo-roseo vividè maculatâ.*

THE SPOTTED HIPPOPUS. Shell somewhat triangularly ovate, trapeziform, anteriorly broadly lunulate, ventricose in the middle, constricted towards the sides, radiately ribbed and ridged, profusely scaled, scales small, leaf-like, spinosely imbricated; marble-white, richly spotted with purple-rose.

Chama hippopus, Linnæus, Syst. Nat. p. 1137.

Hippopus maculatus, Lamarck.

Hab. Eastern seas.

This very elegant shell is too well known to need any comment on its specific characters, which are in all respects unique. No other species of the genus has been collected, and there is no variation even of the species worth calling attention to.

June, 1862.

HIPPOCRUS.

CHAPTER I.

Section I. (H. 1. 1.)

This species, according to the description of the author, is a small, slender, and very active fish, which is found in the Mediterranean Sea, and is particularly common in the Gulf of Venice. It is a very voracious fish, and feeds on small crustaceans, mollusks, and other small animals. It is a very common fish, and is often found in the harbors and bays of the Mediterranean Sea.

The body of this fish is elongated, and tapers towards the tail. It has a pointed snout, and its mouth is very large. The scales are small, and the skin is very smooth. The color of the fish is a silvery grey, with a darker shade on the back. It is a very active fish, and is often found swimming near the surface of the water.

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MONOGRAPH

OF THE GENUS

A N A T I N A.

"Therefore bear you the lantern."—*Shakespeare.*

MOZGOVYH

IN THE

ANTHRA

A N A T I N A .

	Plate.	Species.		Plate.	Species.
amphora, <i>Reeve</i>	IV.	23	gracilis, <i>Reeve</i>	II.	9
anserifera (<i>Mya</i>), Spengler	II.	8	labiata, <i>Reeve</i>	III.	19
argentea, <i>Reeve</i>	IV.	29	laterna, <i>Lamarck</i>	I.	7
attenuata, <i>Reeve</i>	III.	16	limicola, <i>Reeve</i>	IV.	27
Blainvillei, <i>Valenciennes</i>	III.	17	maritima, <i>Valenciennes</i>	II.	10
Boschasina, <i>Valenciennes</i>	II.	13	navicula, <i>Reeve</i>	IV.	21
bullata, <i>Valenciennes</i>	I.	3	olorina, <i>Valenciennes</i>	II.	11
cistella, <i>Reeve</i>	III.	15	prismatica, Sowerby	II.	14
constricta, <i>Reeve</i>	III.	18	prolongata, <i>Reeve</i>	IV.	28
corrugata, <i>Reeve</i>	IV.	25	recta, <i>Reeve</i>	IV.	24
creccina, <i>Valenciennes</i>	II.	12	siphonata, <i>Reeve</i>	I.	2
Cumingii, <i>Valenciennes</i>	I.	1	subrostrata, <i>Lamarck</i>	I.	6
elliptica, <i>King and Broderip</i> ...	II.	14	Tasmanica, <i>Reeve</i>	III.	20
eximia, <i>Reeve</i>	IV.	30	truncata, <i>Lamarck</i>	II.	11
faba, <i>Reeve</i>	IV.	22	vagina, <i>Reeve</i>	IV.	26
flexuosa, <i>Reeve</i>	I.	5	Valenciennesii, <i>Reeve</i>	I.	4

ERRATUM.

Plate IV. Sp. 28. For *A. gracilis*, *Reeve*, read *A. prolongata*, *Reeve*.



ANATINA.

PLATE I.

Genus ANATINA, Lamarck.

Testa æquivalvis, inæquilateralis, tenuis, hyalina, argenteo-alba, lævigata, interdum circa umbones concentricè plicata, versus margines plus minus granulata, granulis ad latus posticum in lineam de umbonibus abruptè cessantibus, latere antico rotundato, postico in rostrum expansum plerumque producto, lateribus ambobus hiantibus. Cardo processu cochleariformi, septo obliquo sustentato, in utrâque valvâ, ligamentum continente, compositus.

Shell equivalve, inequilateral, thin, hyaline, silvery white, smooth, sometimes concentrically plicated around the umboes, more or less granulated towards the margins, granules abruptly ceasing at the posterior side in a line from the umboes, anterior side rounded, posterior generally produced into a pouted beak; both sides gaping. Hinge composed of a spoon-shaped process, supported by an oblique septum, in each valve, containing the ligament.

An interesting genus of the *Mya* tribe, ranging along the eastern shores of the eastern hemisphere from Japan to Tasmania, and even to the Antarctic Ocean, with very little variation in the general typical character of the shell. There are, however, two well-marked forms of *Anatina*, one in which the posterior side of the shell is broadly truncated, as in *A. truncata* and *elliptica*, the other, much the more numerous in species, in which the posterior side is produced into a pouted beak, gaping, of course, in both forms for the passage of the siphons, which are united throughout their length in one sheath. The shell of *Anatina* is invariably thin and hyaline, and of a silvery whiteness, crowded towards the margins with fine grains, which abruptly cease on the posterior side where the shell commences to be beaked, that is to say, on a constricted line sloping from the umboes.

The hinge of *Anatina* is composed of a prominent spoon-shaped process in each valve, developed rather obliquely in a direction posterior to centre, and supported by a firm septum. There is also a fine linear septum in front of it, and both radiate towards the interior. The hinge processes work upon each other with the aid and action of a contained elastic ligament.

Of the thirty species described in the following monograph the habitats of twenty-two are known. Two are from Japan, six from the Philippines and Moluccas, one from Borneo, one from Ceylon, eleven from Australia and

Tasmania, and one, a very remarkable species, from the island of New South Shetland, in the Antarctic Ocean.

Species 1. (Mus. Cuming.)

ANATINA CUMINGII. *Anat. testâ ovatâ, tumidiusculâ, tenui, hyalinâ, versus marginem posticum profusè granulatâ, latere antico compressè rotundato, postico constricto-rostrato, concentricè corrugato, expanso-hiante.*

CUMING'S ANATINA. Shell ovate, rather swollen, thin, hyaline, profusely granulated towards the posterior margin, anterior side compressly rounded, posterior constrictedly beaked, concentrically wrinkled, not granulated, expandedly gaping.

VALENCIENNES, MS. in Mus. Cuming.

Hab. — ?

This elegant species is chiefly distinguished by its constrictedly pouted posterior extremity being concentrically wrinkled.

Species 2. (Mus. Cuming.)

ANATINA SIPHONATA. *Anat. testâ subabbreviato-ovatâ, medio tumidâ, tenui, hyalinâ, circa umbones concentricè plicatâ, versus marginem posticum profusè granulatâ, latere antico rotundato, postico attenuato et constricto-rostrato, remotè concentricè corrugato, haud granulato, subtubuloso-hiante.*

THE SPOUTED ANATINA. Shell rather shortly ovate, swollen in the middle, thin, hyaline, concentrically plicated around the umboes, profusely granulated towards the posterior margin, anterior side rounded, posterior attenuated, and constrictedly beaked, distantly concentrically wrinkled, not granulated, somewhat tubularly gaping.

Hab. Borneo.

Allied to the preceding species, but a shorter form, with the posterior extremity even more attenuated and constrictedly pouted.

Species 3. (Mus. Cuming.)

ANATINA BULLATA. *Anat. testâ subquadrato-ovatâ, gibbosâ, subhyalinâ, concentricè subrugoso-striatâ, latere antico latè tumido-truncato, postico attenuato, flexuoso-rostrato.*

THE BUBBLE ANATINA. Shell somewhat squarely ovate, gibbous, subhyaline, concentrically rather rugosely striated, anterior side broadly tumidly truncated, posterior side attenuated, flexuously beaked.

VALENCIENNES, MS. in Mus. Cuming.

Hab. Sibonga, Island of Zebu, Philippines (in fine sand, at the depth of thirty fathoms); Cuming.

Of a characteristic flexuous growth, broadly tumidly truncated in front.

Species 4. (Mus. Cuming.)

ANATINA VALENCIENNESII. *Anat. testā ovatā, subhyalinā, versus margines profusè granulatā, lateribus latè rotundatis, postico subconstricto, hiantè, marginibus vix expansis.*

VALENCIENNES' ANATINA. Shell ovate, subhyaline, profusely granulated towards the margins, sides broadly rounded, posterior a little constricted, gaping, margins scarcely expanded.

Hab. China.

In this fine species there is only a faint constriction of the posterior extremity, the granules, which are very crowded towards the margins, cease, as usual, very abruptly at the line of constriction.

Species 5. (Mus. Cuming.)

ANATINA FLEXUOSA. *Anat. testā subelongato-ovatā, tenui, hyalinā, crassè granulatā, circa umbones plicato-corrugatā, latere antico rotundato, subproducto, postico flexuoso-attenuato, rostrato, modicè hiantè.*

THE FLEXUOUS ANATINA. Shell rather elongately ovate, thin, hyaline, coarsely granulated, plicately wrinkled round the umboes, anterior side rounded, rather produced, posterior flexuously attenuated, beaked, moderately gaping.

Hab. Japan.

Well distinguished in being plicately wrinkled around the umboes, while the posterior extremity is peculiarly flexuously attenuated.

Species 6. (Mus. Cuming.)

ANATINA SUBROSTRATA. *Anat. testā oblongo-ovatā, tenui, hyalinā, plus minus granulatā, latere antico rotundato, postico latè expanso-rostrato.*

THE SLIGHTLY-BEAKED ANATINA. Shell oblong-ovate, thin, hyaline, more or less granulated, anterior side rounded, posterior broadly expandedly beaked.

LAMARCK, Anim. sans vert. vol. vi. p. 78.

Solen anatinus, Linnæus.

Hab. — ?

In this shell, which M. Valenciennes, from a comparison probably with Lamarck's type, set apart in Mr. Cuming's collection as the species under consideration, the posterior extremity is peculiarly largely beaked.

Species 7. (Mus. Cuming.)

ANATINA LATERNA. *Anat. testā subquadrato-oblongā, compressiusculā, hyalinā, profusè granulatā, latere antico rotundato, postico flexuoso-truncato, vix rostrato.*

THE LANTERN ANATINA. Shell somewhat squarely oblong, rather compressed, hyaline, profusely granulated, anterior side rounded, posterior flexuously truncated, scarcely beaked.

LAMARCK, Anim. sans vert. vol. vi. p. 77.

Hab. North Australia.

A beautifully delicate shell of firm growth, rather compressed, with only a moderately beaked flexuous gaping of the posterior extremity.



8.



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14.

ANATINA.

PLATE II.

Species 8. (Mus. Cuming.)

ANATINA ANSERIFERA. *Anat. testâ subquadrato-oblongâ, hyalinâ, concentricè modicè rugoso-lineatâ, plus minus granulatâ, lateribus subæqualibus, hiantibus, antico vix longiore, subquadrato-rotundato, postico obliquè rotundato.*

THE GOOSE-BILL ANATINA. Shell somewhat squarely oblong, hyaline, concentrically rugosely lineated, more or less granuled, sides nearly equal, moderately gaping, the anterior scarcely the longer, squarely rounded, the posterior obliquely rounded.

Mya anserifera, Spengler, Schrift. Nat. Ges. zu Copenhagen, vol. iii. p. 32. n. 8; Chemn. Conch. Cab. vol. xi. p. 193. vign. 26. *A, B.*

Solen Spengleri, Gmelin.

Hab. Tasmania; R. C. Gunn.

A comparatively smooth shell with the sides nearly equal.

Species 9. (Mus. Cuming.)

ANATINA GRACILIS. *Anat. testâ angustè oblongâ, subcylindraceâ, hyalinâ, lævigatâ, copiosè minutè granulatâ, granulis ad latus anticum gradatim evanidis, lateribus subæqualibus, ambobus rotundatis, modicè hiantibus, antico subattenuato.*

THE SLENDER ANATINA. Shell narrowly oblong, somewhat cylindrical, hyaline, smooth, copiously minutely granulated, granules gradually fading on the anterior side, sides nearly equal, both rounded, moderately gaping, the anterior rather attenuated.

Hab. Moreton Bay, Australia.

The sides of this species are nearly equal, the valves are narrowly gibbous, comparatively free from concentric wrinkles, but copiously minutely granulated. The granules, though disappearing on the anterior side, do not end, as in most species, in an abrupt linear angle.

Species 10. (Mus. Cuming.)

ANATINA MARILINA. *Anat. testâ suboblongo-quadratâ, hyalinâ, submargaritaceâ, versus marginem conspicuè lirato-rugatâ et granulatâ, valvis subæqualibus, utrinque compressè rotundatis, parum hiantibus.*

THE ASH ANATINA. Shell rather oblong-square, hyaline, rather pearly, conspicuously wrinkle-ridged and granulated towards the margin, valves nearly equal, compressly rounded at each end, but little gaping.

VALENCIENNES, MS. in Mus. Cuming.

Hab. Australia.

Compared with the allied species, the valves of this are unusually equal, and but little gaping, the shell has, moreover, a more pearly aspect.

Species 11. (Mus. Cuming.)

ANATINA TRUNCATA. *Anat. testâ elongato-oblongâ, subcompressâ, hyalinâ, solidiusculâ, concentricè rudè rugatâ, granulatâ, granulis ad latus anticum abruptè evanidis, lateribus subæqualibus, antico quadrato-truncato, valde hiantè, postico compressè rotundato, modicè hiantè.*

THE TRUNCATED ANATINA. Shell elongately oblong, rather compressed, hyaline, rather solid, concentrically rudely wrinkled, granulated, granules abruptly fading on the anterior side, sides nearly equal, anterior squarely truncated, largely gaping, posterior compressly rounded, moderately gaping.

LAMARCK, Anim. sans. vert. vol. vi. p. 77.

Anatina olorina, Valenciennes.

Hab. Bay of Manila, Philippines (at low water); Cuming.

This well-marked species, which I take to be Lamarck's *A. truncata*, was collected in great abundance by Mr. Cuming in the Bay of Manila.

Species 12. (Mus. Cuming.)

ANATINA CRECCINA. *Anat. testâ subelongato-oblongâ, cylindraceâ, tenui, hyalinâ, minutè granulatâ, prope umbones sublatè obliquè rugatâ, latere antico attenuato-rostratâ, rotundato-hiantè, extremitatibus reflexis, postico compressiusculo, modicè hiantè, extremitatibus concentricè rugatis.*

THE ROUGH-BILL ANATINA. Shell rather elongately oblong, cylindrical, thin, hyaline, minutely granulated, rather broadly obliquely wrinkled near the umboes, anterior side attenuately beaked, rotundately gaping,

extremities reflected, posterior side rather compressed, moderately gaping, extremities concentrically wrinkled.

VALENCIENNES, MS. in Mus. Cuming.

Hab. Adelaide, South Australia (in sandy mud, at a depth of ten fathoms).

Younger specimens of this species in Mr. Cuming's collection, show its characteristics better than the adult. An apparently slight but important specific character consists in the presence of a few faint, oblique, not concentric, wrinkles near the umbo of each valve; and the species inclines to be of a rather narrow cylindrically oblong form, with the anterior extremities beaked in a rather confined rotundately pouting manner.

Species 13. (Mus. Cuming.)

ANATINA BOSCHASINA. *Anat. testâ subtrigono-oblongâ, inflatâ, hyalinâ, concentricè corrugato-liratâ, granulatâ, granulis ad latus anticum abruptè evanidis, latere antico attenuato, modicè hiante, extremitatibus subreflexis, postico lato, subgloboso, vix hiante.*

BOSCH'S ANATINA. Shell somewhat triangularly oblong, inflated, hyaline, concentrically wrinkle-ridged, granulated, granules abruptly disappearing on the anterior side, anterior side attenuated, moderately gaping, extremities slightly reflected, posterior side broad, rather globose, scarcely gaping.

VALENCIENNES, MS. in Mus. Cuming.

Hab. Island of Negros, Philippines (found in mud at low water); Cuming.

Rather more attenuated on the anterior side than usual, which attenuation contrasts very perceptibly with the somewhat globosely inflated posterior side.

Species 14. (Mus. Cuming.)

ANATINA ELLIPTICA. *Anat. testâ abbreviato-oblongâ, subtrapeziformi, crassiusculâ, opaco-albâ, rudè concentricè rugosâ, intus pallidè prismaticâ, latere antico latissimè truncato, valde hiante, postico rotundato, parum hiante.*

THE ELLIPTIC ANATINA. Shell shortly oblong, subtrapeziform, rather thick, opaque white, rudely concentrically wrinkled, faintly prismatic in the interior, anterior side very broad, largely gaping, posterior rounded, slightly gaping.

KING and BRODERIP, Zool. Journ. vol. v. p. 335.

Anatina prismatica, Sowerby.

Hab. New South Shetland, Antarctic Ocean; Lieut. Kendal, Dr. Eights.

An interesting broadly truncated *Panopæa*-like species, with a remarkably large anterior gape. The specimen from which our figure is taken, was found on the beach at New South Shetland after a gale of wind, by Dr. Eights of Philadelphia, and described by Mr. Sowerby in the Proceedings of the Zoological Society for 1834. A specimen had, however, been previously brought to England by Captain King, to whom it had been presented by Lieutenant Kendal, of H.M.S. Chanticleer, who found it in the very same locality. This specimen, which is in the British Museum, was described by King and Broderip in the Zoological Journal for 1830-31, and figured by Dr. Gray in Griffith's Cuvier's Animal Kingdom, pl. xxii. f. 3.



15.



16.



17.



18.



19.a.



19.b.



20.

ANATINA.

PLATE III.

Species 15. (Mus. Cuming.)

ANATINA CISTELLA. *Anat. testā quadrato-oblongā, subcompressā, tenuiculā, hyalinā, nisi ad latus anticum copiosè granulatā, latere postico compressè subrostrato, modicè hiante, antico latè rotundato, vix hiante.*

THE CASKET ANATINA. Shell squarely oblong, somewhat compressed, rather thin, hyaline, copiously granulated except at the posterior side, anterior side compressly slightly beaked, moderately gaping, anterior side broadly rounded, scarcely gaping.

Hab. Moluccas.

Of a distinct squarely oblong form, broad and rather compressed.

Species 16. (Mus. Cuming.)

ANATINA ATTENUATA. *Anat. testā elongato-oblongā, subangustā, tenui, hyalinā, nisi ad latus anticum copiosè granulatā, latere postico attenuato, subtubuloso, antico latiore, rotundato.*

THE ATTENUATED ANATINA. Shell elongately oblong, rather narrow, thin, hyaline, copiously granulated, except at the anterior side, posterior side attenuated, somewhat tubulous, anterior side broader, rounded.

Hab. Sydney.

Of a rather narrow, elongated growth, the posterior side being attenuated and inclined to be tubular.

Species 17. (Mus. Cuming.)

ANATINA BLAINVILLEI. *Anat. testā oblongo-ovatā, subflexuosā, tenui, hyalinā, minutè granulatā, latere postico subproducto, subrostrato, tubuloso-hiante, antico subattenuato, rotundato.*

BLAINVILLE'S ANATINA. Shell oblong-ovate, rather flexuous, thin, hyaline, minutely granuled, posterior side rather produced, slightly beaked, tubularly gaping, anterior side rather attenuated, rounded.

VALENCIENNES, MS. in Mus. Cuming.

Hab. Island of Burias, Philippines (in sandy mud at a depth of from ten to twenty fathoms); Cuming.

Very thin and transparent, of a rather narrow subflexuous form.

Species 18. (Mus. Cuming.)

ANATINA CONSTRICTA. *Anat. testā subquadrato-oblongā, compressiusculā, hyalinā, minutissimè granulatā, latere postico breviusculo, curvato, constricto-rostrato, tubuloso-hiante, antico producto, latè rotundato, vix hiante.*

THE CONSTRICTED ANATINA. Shell somewhat squarely oblong, rather compressed, hyaline, very minutely granuled, posterior side rather short, curved, constrictedly beaked, tubularly gaping, anterior side produced, broadly rounded, scarcely gaping.

Hab. North Australia.

An oblong beaked form, in which the beak is more than usually constricted.

Species 19. (Fig. a, b, Mus. Cuming.)

ANATINA LABIATA. *Anat. testā oblongo-ovatā, tenui, eximie hyalinā, minutissimè granulatā, latere postico abruptè flexuoso-attenuato, marginibus tubuloso-expansis, antico rotundato.*

THE POUTING ANATINA. Shell oblong-ovate, thin, delicately hyaline, very minutely granulated, posterior side abruptly flexuously attenuated, with the margins tubularly pouted, anterior side rounded.

Hab. Ceylon; E. L. Layard.

An extremely delicate species, very abruptly tubularly attenuated at the posterior end, with the margins expandedly pouted, varying in character as in the two specimens figured.

Species 20. (Mus. Cuming.)

ANATINA TASMANICA. *Anat. testā subæquilaterali, oblongā, compressiusculā, subhyalinā, subobsoletè granulatā, lateribus rotundatis, parum hiantibus, postico subangustiore.*

THE TASMANIAN ANATINA. Shell nearly equilateral, oblong, rather compressed, subhyaline, rather obsoletely granulated, sides rounded, but little gaping, posterior rather the narrower.

Hab. Tasmania.

A shell of very simple character, in which the sides are nearly equal.



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30.

ANATINA.

PLATE IV.

Species 21. (Mus. Cuming.)

ANATINA NAVICULA. *Anat. subæquilaterali, oblongâ, gibbosâ, hyalinâ, granoso-scabrosâ, lateribus rotundatis, parum hiantibus, antico sublatis, obtusè tumido-truncato.*

THE BOAT ANATINA. Shell nearly equilateral, oblong, gibbous, hyaline, granosely scabrous, sides rounded, but little gaping, anterior side rather the broader, obtusely tumidly truncated.

Hab. — ?

An oblong gibbous shell, with very much the form of *Novaculina*.

Species 22. (Mus. Cuming.)

ANATINA FABA. *Anat. testâ ovatâ, utrinque attenuatâ, tenuissimâ, hyalinâ, concentricè striato-liratâ, latere postico flexuoso-rostrato, vix hiante.*

THE BEAN ANATINA. Shell ovate, attenuated at each end, very thin, hyaline, concentrically striately ridged, posterior side flexuously beaked, scarcely gaping.

Hab. Brisbane, east coast of New Holland.

A small *Nucula*-shaped species, very thin and transparent, but distinctly concentrically striately ridged, the posterior side is attenuately flexuously beaked, scarcely gaping.

Species 23. (Mus. Cuming.)

ANATINA AMPHORA. *Anat. testâ ovatâ, medio ventricosâ, tenui, hyalinâ, concentricè striato-liratâ, latere postico abruptè rostrato, tubuloso-hiante, marginibus exsertis, antico attenuato-rotundato.*

THE PITCHER ANATINA. Shell ovate, ventricose in the middle, thin, hyaline, concentrically striately ridged, posterior side abruptly beaked, tubularly gaping, margins pouted, anterior side attenuately rounded.

Hab. Island of Burias, Philippines.

A delicately transparent, concentrically ridged species, broadly ventricose in the middle, in which the posterior side is very abruptly beaked and pouted.

Species 24. (Mus. Cuming.)

ANATINA RECTA. *Anat. testâ subæquilaterali, elongato-oblongâ, rectâ, sordidè albâ, lateribus rotundatis, postico subobsoletè concentricè corrugato, antico latiore; subexpanso, lateribus ambobus modicè hiantibus.*

THE STRAIGHT ANATINA. Shell nearly equilateral, elongately oblong, straight, dull white, sides rounded, posterior rather obsoletely concentrically wrinkled, anterior broader, slightly expanded, both sides moderately gaping.

Hab. Port Phillip, Australia.

A straight, nearly equilateral species, gaping at both ends, with the margins inclined to expand.

Species 25. (Mus. Cuming.)

ANATINA CORRUGATA. *Anat. testâ oblongâ, subangustâ, tenui, hyalinâ, latere postico concentricè corrugato, attenuato-truncato, modicè hiante, antico subventricoso, rotundato, modicè hiante.*

THE WRINKLED ANATINA. Shell oblong, rather narrow, thin, hyaline, posterior side concentrically wrinkled, attenuately truncated, moderately gaping, anterior rather ventricose, rounded, moderately gaping.

Hab. Island of Ticao, Philippines (in coral sand at a depth of about six fathoms); Cuming.

The posterior side is in this species attenuately truncated in form, and faintly but distinctly wrinkled.

Species 26. (Mus. Cuming.)

ANATINA VAGINA. *Anat. testâ oblongo-ovatâ, curvatâ, tenuissimâ, hyalinâ, copiosè minutè granulatâ, latere postico breviusculo, constricto-rostrato, tubuloso-hiante, marginibus expansis, antico compressè rotundato, parum hiante.*

THE SHEATH ANATINA. Shell oblong-ovate, curved, very thin, hyaline, copiously minutely grained, posterior side rather short, constrictedly beaked, tubularly gaping, margins pouted, anterior compressly rounded, but little gaping.

Hab. Moreton Bay, Australia.

A very delicate hyaline shell, of characteristic form, the

posterior side being short, constrictedly beaked and pouted, but not angled.

Species 27. (Mus. Cuming.)

ANATINA LIMICOLA. *Anat. testā subæquilaterali, cylindraceo-oblongā, argenteo-hyalinā, lævigatā, latere postico abruptè truncato, ampliter hiantē, antico latiore, tumido, rotundato, parum hiantē.*

THE MUD-DWELLING ANATINA. Shell nearly equilateral, cylindrically oblong, silvery hyaline, smooth, posterior side abruptly truncated, largely gaping, anterior side broader, swollen, rounded, but little gaping.

Hab. Japan.

Closely allied to *A. truncata*, of the Philippine Islands, and equally abundant, perforating the mud in all directions.

Species 28. (Mus. Cuming.)

ANATINA GRACILIS. *Anat. elongato-pyriformi, tenuissimā, hyalinā, concentricè striato-liratā, latere postico constricto-rostrato, rostro attenuato-producto, antico tumido-expanso, rotundato.*

THE SLENDER ANATINA. Shell elongately pear-shaped, very thin, hyaline, concentrically striately, ridged, posterior side constrictedly beaked, beak attenuately produced, anterior tumidly expanded, rounded.

Hab. Port Curtis, Australia.

A very thin, transparent shell, remarkable for the attenuated prolongation of the beaked posterior side.

Species 29. (Mus. Cuming.)

ANATINA ARGENTEA. *Anat. testā ovatā, tenui, lævigatā, argenteā, hyalinā, latere postico constricto-attenuato, vix rostrato, modicè hiantē, antico rotundato, parum hiantē.*

THE SILVERY ANATINA. Shell ovate, thin, smooth, silvery, hyaline, posterior side constrictedly attenuated, scarcely beaked, moderately gaping, anterior side rounded, but little gaping.

Hab. — ?

This species differs from all others in having the posterior side constrictedly attenuately produced, with very little inclination to become beaked.

Species 30. (Mus. Cuming.)

ANATINA EXIMIA. *Anat. testā ovatā, curvatā, tenui, hyalinā, circa umbones eximiè plicatā, latere postico constricto-attenuato, rostrato, hiantē, marginibus subexpansis, antico arcuato-rotundato, modicè hiantē.*

THE DELICATE ANATINA. Shell ovate, curved, thin, hyaline, neatly plicated round the umboes, posterior side constrictedly attenuated and beaked, gaping, margins a little pouted, anterior side arcuately rounded, moderately gaping.

Hab. — ?

An elegantly curved shell, attenuately beaked on the posterior side, with the margins a little pouted.

MONOGRAPH
OF THE GENUS
T U G O N I A.

“ My instruction may serve to naturalize thee.”—*Shakespeare.*

MONOGRAPH

THE G. O. N. A.



1.a.



2.



3.



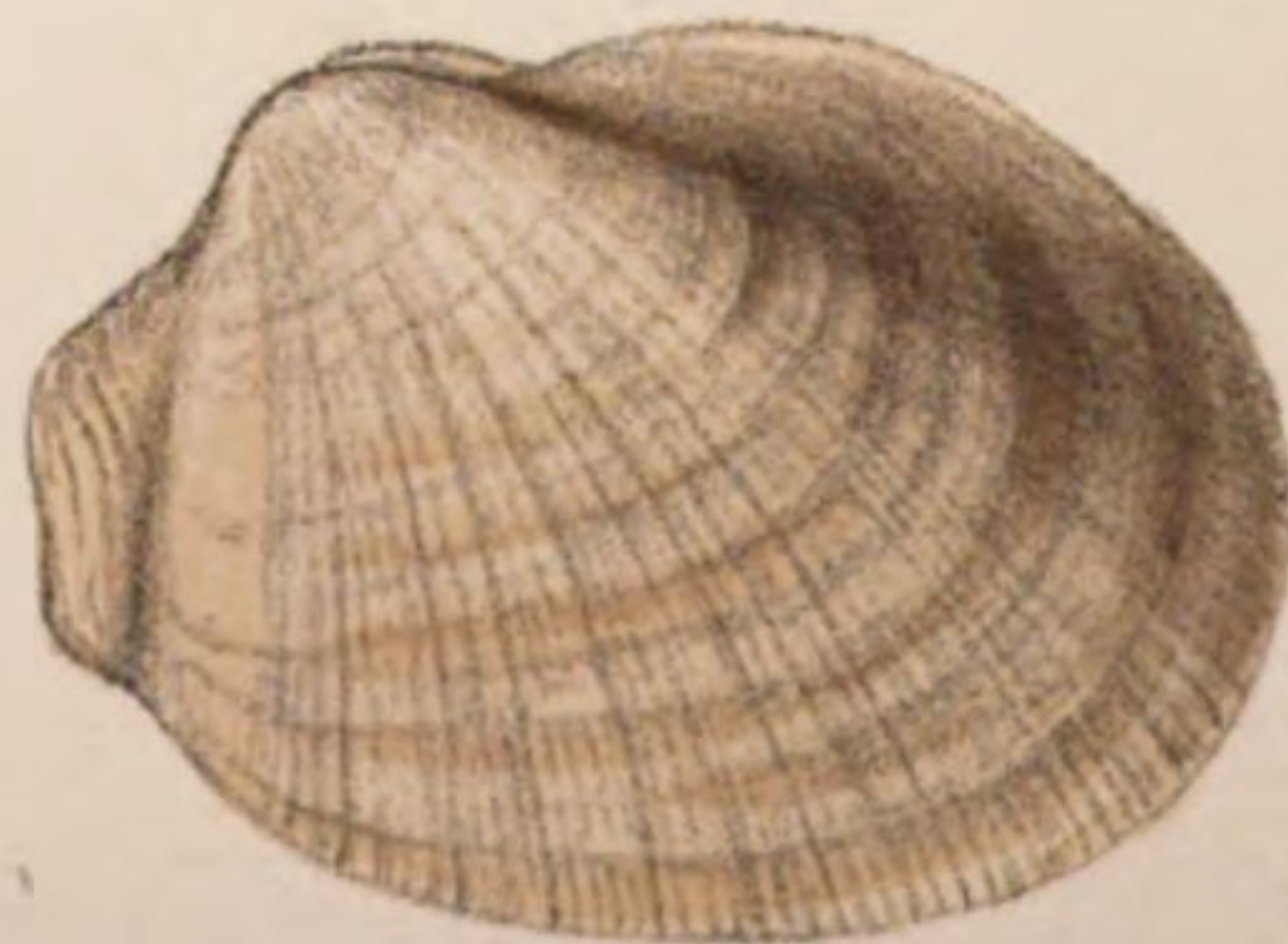
1.b.



4.a.



4.b.



5.

TUGONIA.

PLATE I.

Genus TUGONIA, Gray.

Testa æquivalvis, valdè inæquilateralis, plus minus globosa, opaco-alba, solidiuscula, radiatim tenuilirata vel striata, liris ad aream anticam interdum desinentibus, latere antico perampliter gibboso, postico brevissimo, coarctato-rostrato, hiante, orificio rotundo, marginibus callosis. Cardo processu parvo cochleariformi, septo brevi perobliquo sustentato, in utrâque valvâ, ligamentum continente, compositus.

Shell equivalve, very inequilateral, more or less globose, opake-white, rather solid, radiately finely ridged or striated, ridges sometimes wanting on the anterior area, anterior side very largely gibbous, posterior very short, contractedly beaked, gaping, orifice round, with the margins callous. Hinge composed of a small spoon-shaped process, supported by a short very oblique septum in each valve containing the ligament.

The genus *Tugonia* was founded by Dr. Gray for the reception of a characteristic form of *Anatina* inhabiting the west coast of Africa, originally described by Adanson, in his 'Natural History of Senegal,' with the name *Le Tugon*. The shell is of a rather solid opake substance, curiously gibbously globose, with the posterior extremity contracted, where the siphonic sheath of the animal is exerted, into a conspicuous subtubularly-beaked orifice. Adanson mistook it for the shell of a *Pholas*. Chemnitz, who, as shown by his admirable figures (Conch. Cab. vol. vi. pl. 2. f. 13-16), possessed specimens, described it as living in abundance near the mouth of the Niger, and named it "The Guinea *Mya anatina*." The genus is, however, rare in collections, and Mr. Cuming has obtained no precise information of its habitat. The specimens in his collection given in the accompanying Plate, appear to represent six species, varying in form and convexity and in the details of sculpture. Some are radiately ridged throughout; in some the radiating ridges abruptly terminate on the posterior side at a line sloping from the umbo. Five of the species are from West Africa, one from Ceylon.

Species 1. (Fig. a, b, Mus. Cuming.)

TUGONIA GUINEENSIS. *Tug. testâ globosâ, gibbosissimâ, albâ, radiatim tenuiliratâ, liris striis concentricis subobsoletè fenestratis, striis anticis versus marginem evanidis, latere antico peramplo, postico abruptè rostrato.*

THE GUINEA TUGONIA. Shell globose, very gibbous, white, radiately finely ridged, ridges somewhat obsoletely latticed with concentric striæ, anterior striæ fading towards the margin, anterior side very large, posterior abruptly beaked.

Le tugon, Adanson, Hist. Nat. Coq. du Senegal, pl. 19. f. 2.

Mya anatina, pars, Gmelin.

Mya anatina Guineensis, Chemnitz.

Anatina globulosa, Lamarck.

Mya tugon, Deshayes.

Hab. West coast of Africa.

M. Deshayes proposed to adopt the French appellation of Adanson for the name of this species, but such a compound is unclassical. Chemnitz was the first to distinguish the shell specifically from those included by the older writers under the general term of *Mya anatina*.

Species 2. (Mus. Cuming.)

TUGONIA DIVARICATA. *Tug. testâ subquadrato-ovatâ, candidâ, radiatim minutissimè lineari incisâ, versus marginem posticum nitidè divaricatim corrugatâ, latere antico rotundato, postico latè subangulato-rostrato.*

THE DIVARICATE TUGONIA. Shell somewhat squarely ovate, white, radiately very minutely linearly engraved, towards the posterior margin prettily divaricately wrinkled, anterior side rounded, posterior broadly subangularly beaked.

Hab. Ceylon; E. L. Layard.

Of quite a distinct type from the West African species, the shell being apparently smooth, but under the lens minutely radiately engraved, while towards the posterior and posterior-ventral margins it is sculptured with very characteristic divaricating wrinkles.

Species 3. (Mus. Cuming.)

TUGONIA COMPRESSA. *Tug. testâ suborbiculari-ovatâ, versus marginem compressâ, lutescente-albâ, undique radiatim lirâtâ, liris irregularibus, striis concentricis clathratis et tenuè crenulatis, latere antico peramplo, postico brevissimo, latè rostrato.*

THE COMPRESSED TUGONIA. Shell suborbicularly ovate, compressed towards the margin, yellowish-white, ra-

diately ridged throughout, ridges irregular, latticed and finely crenulated with concentric striæ, anterior side very large, posterior very short, broadly beaked.
Hab. West Africa.

The shell is in this species comparatively rather compressed, while the radiating ridges are stronger, crenulated on the summit, finely latticed in the interstices.

Species 4. (Fig. 4 a, Mus. Cuming.)

TUGONIA SEMISULCATA. *Tug. testâ obliquè globosâ, gibbosâ, albâ, radiatim tenuiliratâ, liris striis concentricis minutè densè clathratis, areâ anticâ sine liris radiantibus, latere postico modicè rostrato.*

THE HALF-GROOVED TUGONIA. Shell obliquely globose, gibbous, white, radiately finely ridged, ridges minutely closely latticed with concentric striæ, anterior area without radiating striæ, posterior side moderately beaked.

ADAMS, Gen. Rec. Moll. vol. ii. p. 355.

Hab. West Africa.

The anterior area of this and the following species is sculptured with concentric ridges, but the radiating ridges are wanting. They cease at the side, in a line sloping from the umbo. The grooved contraction of the specimen here represented, as seen in the upper part of the figure, is merely an accident of growth.

Species 5. (Mus. Cuming.)

TUGONIA NOBILIS. *Tug. testâ globoso-oblongâ, anticè gibbosâ, albâ, radiatim tenuiliratâ, liris densè clathratis ad latera obsoletis, latere antico obtusè angulato, postico truncato-rostrato.*

THE NOBLE TUGONIA. Shell globosely oblong, anteriorly gibbous, white, radiately finely ridged, ridges closely latticed, obsolete at the sides, anterior side obtusely angled, posterior truncately beaked.

ADAMS, Gen. Rec. Moll. vol. ii. p. 355.

Hab. West Africa.

This species scarcely differs from *T. anatina*, except in being of a more oblong form.

Species 6. (Fig. 4 b, Mus. Cuming.)

TUGONIA SIPHONATA. *Tug. testâ obliquè globosâ, albâ, undique radiatim lirata, liris confertis, irregularibus, minutè crenulatis, latere antico gibboso, peramplo, postico subproducto, expanso-rostrato.*

THE SPOUTED TUGONIA. Shell obliquely globose, white, everywhere radiately ridged, ridges close, irregular, minutely crenulated, anterior side gibbous, very large, posterior rather produced, pointedly beaked.

Hab. West Africa.

It will be observed by the numbering of this species that it was taken originally to be a variety of *T. semisulcata*, but the radiating ridges, as in *T. compressa*, range throughout; they do not stop short of the anterior area.

MONOGRAPH
OF THE GENUS
CHAMOSTREA.

“They that go down to the sea in ships, and occupy
their business in great waters ;
These men see the works of the Lord, and his wonders
in the deep.”— *Psalms*.

MONOGRAPH

ON THE

CHAMOSTRE

There are two main parts to the study of Chamostre. The first part is the study of the Chamostre itself, and the second part is the study of the Chamostre in relation to the other parts of the system.



1a.



1b.



1d.



1c.



1e.

CHAMOSTREA.

PLATE I.

Genus CHAMOSTREA, *De Roissy*.

Testa valdè inæquivalvis, valdè inæquilateralis, umbonibus involutis, latere postico acutè trigono, antico plano, adhærente; valvâ dextrâ perampliter trigono-convexâ, sinistrâ planiusculâ, operculoideâ. Cardo dente parvo solido erecto in valvâ sinistrâ in fossulam valvæ dextræ intrante, fossulâque alterâ ligamentum cum ossiculo continente, ligamento elongato etiam ad marginem.

Shell very inequivalve, very inequilateral, with the umboes involute, posterior side sharply triangular, anterior flat, adhering; right valve very large, triangularly convex, the left rather flat, lid-like. Hinge composed of a small solid erect tooth in the left valve, entering into a pit in the right valve, behind which there is another pit containing elastic ligament, with an ossicle attached; there is also a marginal ridge of ligaments.

The animal of this curious Australian bivalve has been described by Albany Hancock, but it is not at all clear that the place assigned to it in the family of *Anatinidæ* is correct. The shell is of very solid growth, flatly adhering to foreign bodies by the right valve, which is deeply triangular convex, while the left valve, which forms a lid to it, is of very peculiar growth. The posterior portion of this valve is developed, and corresponds with, the free posterior portion of the right valve, and is of the same concentrically striated growth, but the anterior portion of the left valve, which is developed with the adhering portion of the right valve, presents an abrupt change of growth, having a crisped wrinkled surface, with the lines of increase ranging obliquely.

The hinge of *Chamostrea* is unique in structure. In the left valve is a blunt erect tooth, fitting into a pit in the right valve, beside which, in each valve, there is another pit containing ligament with a shelly appendage or ossicle, quite distinct from the shell, attached to it. The valves open and shut with the aid of this moving ossicle, and in

opening dried specimens of the shell it will be found adhering to ligament either in the ligamentary pit of the right or left valve as accident may direct. In the specimen represented in the accompanying Plate, at Fig. 1 *b* and 1 *c*, the ossicle may be seen adhering to the ligament in the left valve. At Fig 1 *d* it is again given by itself. Along the margin above the hinge is an auxiliary more elongated portion of ligament. In Fig. 1 *c* it may be seen commencing in a dark curve above the tooth-pit.

Lamarck, on the authority of M. Leschenault, gives Java as the habitat of this shell, but this must be a mistake. The only satisfactorily authenticated habitats are east coast of New Holland and New Hebrides. Fig. 1 *e* shows the mode in which specimens adhere to one another.

Species 1. (Fig. *a, b, c, d, e*, Mus. Cuming.)

CHAMOSTREA ALBIDA. *Cham. testâ trigono-globosâ, solidâ, purpureo-roseâ et fulvâ, valvâ dextrâ concentricè rugoso-striatâ, valvæ sinistræ dimidio postico concentricè rugoso-striato, altero obliquè peculiariter crispato-corrugato.*

THE WHITISH CHAMOSTREA. Shell triangularly globose, solid, purple-rose and fulvous, right valve concentrically roughly striated, posterior half of the left valve concentrically roughly striated, the other half obliquely peculiarly crispately wrinkled.

Chama albida, Lamarck, *Anim. sans vert.* vol. vi. p. 585.

Chamostrea albida, De Roissy.

Cleidothærus Chamoides, Stutchbury.

Cleidothærus albidus, Deshayes.

Hab. Sydney, New Hebrides.

The Australian specimens of this genus are strongly hinged and rayed with purple-rose. The specimens in Mr. Cuming's collection from New Hebrides, one of which is given at Fig. 1 *a*, are uniformly pale and livid.

MONOGRAPH
OF THE GENUS
V E N U S .

“And in the symmetry of their parts is found
A power, like that of harmony in sound.”—*Johnston*.

MONOGRAPH

OF THE

V. E. N. U. S.

V E N U S.

	Plate.	Species.		Plate.	Species.
<i>Adamsii</i> , Reeve	XVII.	77	<i>crenata</i> , Gmelin.	X.	33
<i>ægrola</i> , Reeve	XVII.	74	<i>crenulata</i> , Chemnitz	X.	33
<i>æquilatera</i> (<i>Donax</i>), Sowerby ..	XX.	92	<i>crispata</i> , Deshayes	IX.	31
<i>affinis</i> , Sowerby	XII.	38	<i>Cumingii</i> , Sowerby.	XXIII.	114
<i>alatus</i> , Reeve	XVIII.	83	<i>cuneiformis</i> , Reeve.	XXIV.	120
<i>albina</i> , Sowerby	XIV.	55	<i>Cypria</i> , Sowerby	XXIII.	116
<i>alboradiata</i> , Sowerby	III.	7	<i>Cyprinoides</i> , Anton	II.	4
<i>alta</i> , Sowerby	XXIII.	115	<i>declivis</i> , Sowerby	XXIII.	111
<i>Amathusia</i> , Philippi	XI.	36	<i>decorata</i> , Broderip and Sowerby..	XXI.	100
<i>antiqua</i> (<i>Dosina</i>), Gray	IX.	30	<i>denticulata</i> , Quoy	XX.	90
<i>Aphrodina</i> , Lamarck	XVII.	76	<i>discors</i> , Sowerby	VII.	22
<i>Aphrodinoides</i> , Lamarck	XVII.	73	<i>discina</i> , Lamarck	V.	15
<i>asperrima</i> , Sowerby	VI.	19	<i>discrepans</i> , Sowerby	XVII.	72
<i>Astartoides</i> , Beck	XXIV.	119	<i>donacina</i> , Chemnitz	XX.	95
<i>australis</i> , Sowerby	XXII.	107	<i>Dombeii</i> , Lamarck.	IX.	29
<i>bella</i> , Jonas	XXI.	100	<i>dysera</i> , Chemnitz	XIX.	88
<i>Berryi</i> , Gray	XXIV.	122	<i>eburnea</i> , Reeve	XIV.	50
<i>bilineata</i> , Reeve	XXII.	105	<i>elegans</i> , Adams and Reeve.	XXV.	133
<i>Brongniarti</i> , Payraudeau	XXII.	108	<i>entobapta</i> , Jonas	XVI.	62
<i>cælata</i> , Menke	XX.	90	<i>erycina</i> , Pennant	XII.	40
<i>Californiensis</i> , Broderip	XI.	35	<i>exalbida</i> , Chemnitz	IV.	13
<i>callosa</i> , Conrad	XIX.	87	<i>exilis</i> , Lamarck	XXIV.	123
<i>calophylla</i> , Hanley.	XXIII.	114	<i>fasciata</i> (<i>Pectunculus</i>), Da Costa.	XXII.	108
<i>cancellata</i> , Donovan	XII.	40	<i>flexuosa</i> , Linnæus	XXI.	99
<i>cancellata</i> , Linnæus	XIX.	88	<i>fluctuosa</i> , Gould	XXIV.	119
<i>cardioides</i> , Lamarck	VIII.	25	<i>foliacea</i> , Philippi	XXIII.	109
<i>casina</i> , Linnæus	V.	15	<i>foveolata</i> , Sowerby.	IV.	11
<i>casinula</i> , Deshayes.	XVI.	67	<i>fusco-lineata</i> , Sowerby	XVI.	69
<i>cerina</i> , C. B. Adams	XXVI.	140	<i>gallina</i> , Maton and Rackett	XVII.	75
<i>Chemnitzii</i> , Hanley.	X.	32	<i>gallinula</i> , Lamarck	XXII.	106
<i>Chilensis</i> , Sowerby.	IX.	29	<i>gemma</i> , Totten	XXV.	128
<i>cincta</i> , Chemnitz	VII.	23	<i>gibbosula</i> , Deshayes	XIII.	47
<i>cingulata</i> , Lamarck	VIII.	26	<i>globulus</i> , Reeve	XXVI.	141
<i>clathrata</i> , Deshayes.	I.	3	<i>Gnidia</i> , Broderip and Sowerby ..	XI.	37
<i>Cochinensis</i> , Sowerby.	XXIV.	118	<i>granulata</i> , Gmelin	XVI.	62
<i>Columbiensis</i> , Sowerby	XV.	61	<i>grata</i> , Say	III.	8
<i>compta</i> , Broderip	XIII.	48	<i>histrionica</i> , Sowerby	XVI.	70
<i>conularis</i> , Lamarck	XX.	96	<i>imbricata</i> , Sowerby.	XXIV.,	118
<i>cor</i> , Sowerby	IX.	28	<i>impressa</i> , Anton.	XXI.	99
<i>corbis</i> , Lamarck.	X.	34	<i>intermedia</i> , Gray	XVI.	67
<i>costata</i> , Brown	XVII.	75	<i>intersecta</i> , Sowerby.	XIV.	52
<i>costellata</i> , Sowerby.	IX.	30	<i>irregularis</i> , Reeve	XXV.	134
<i>costellifera</i> , Adams and Reeve ..	XXII.	103	<i>Isabellina</i> , Philippi	XXIII.	112
<i>crassa</i> , Quoy	XX.	90	<i>Jukesii</i> , Deshayes	XVI.	64
<i>crassicostata</i> , Quoy and Gaimard	XII.	42	<i>Kellettii</i> , Hinds.	XVIII.	82
<i>crebrisulca</i> , Sowerby	XVI.	64	<i>Kennerleyi</i> , Carpenter	XII.	41

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	Plate.	Species.		Plate.	Species.
<i>lacerata</i> , Hanley.....	VI.	18	<i>quadrangularis</i> , Adams and Reeve	XXV.	129
<i>lactea</i> , Donovan.....	V.	15	<i>radiata</i> , Sacchi.....	XXVI.	137
<i>lacunatus</i> , Reeve.....	XVI.	63	<i>reflexa</i> , Montagu.....	V.	15
<i>Lamarckii</i> , Gray.....	XII.	39	<i>resticulata</i> , Sowerby.....	VIII.	27
<i>laminosa</i> , Turton.....	XVII.	75	<i>reticulata</i> , Linnæus.....	X.	34
<i>lamellata</i> , Lamarck.....	XVIII.	78	<i>rigida</i> , Dillwyn.....	VII.	23
<i>laqueata</i> , Sowerby.....	VI.	20	<i>roborata</i> , Henley.....	XXIII.	113
<i>Lemarii</i> , Payraudeau.....	XII.	40	<i>rosalina</i> , Rang.....	V.	16
<i>Layardi</i> , Reeve.....	XXVI.	136	<i>runderata</i> (<i>Chione</i>), Deshayes....	XXV.	130
<i>leucodon</i> , Sowerby.....	XI.	35	<i>rugosa</i> , Gmelin.....	VII.	23
<i>lenticularis</i> , Sowerby.....	VII.	21	<i>rugosa</i> , Pennant.....	XVII.	75
<i>lima</i> (<i>Tapes</i>), Sowerby.....	I.	2	<i>Rusterusii</i> , Payraudeau.....	V.	15
<i>Listeri</i> (<i>Dosina</i>), Gray.....	V.	14	<i>Sallei</i> , Reeve.....	XXIV.	124
<i>lunulata</i> (<i>Cytherea</i>), Lamarck..	XXI.	98	<i>scabra</i> , Hanley.....	XXI.	97
<i>lyra</i> , Hanley.....	XV.	56	<i>scalarina</i> , Lamarck.....	XX.	96
<i>macrodon</i> (<i>Cytherea</i>), Lamarck..	XXI.	98	<i>sculpta</i> , Deshayes.....	II.	5
<i>Mactracea</i> , Broderip.....	XVII.	71	<i>semicancellata</i> , Koch.....	XX.	95
<i>magnifica</i> , Sowerby.....	V.	17	<i>simillima</i> , Sowerby.....	XIII.	44
<i>Marica</i> , Linnæus.....	XXII.	104	<i>Sowerbyi</i> , Deshayes.....	VIII.	24
<i>mercenaria</i> , Linnæus.....	II.	4	<i>spadicea</i> , Renieri.....	XXVI.	137
<i>mesodesma</i> , Quoy.....	XX.	90	<i>sphærisulca</i> , Deshayes.....	II.	6
<i>mitis</i> (<i>Chione</i>), Deshayes.....	XXV.	127	<i>spissa</i> , Quoy.....	XX.	90
<i>monilifera</i> , Sowerby.....	XIV.	53	<i>spurca</i> , Sowerby.....	XX.	90
<i>multicostata</i> , Sowerby.....	III.	9	<i>squamosa</i> (<i>Cytherea</i>), Lamarck..	XXI.	101
<i>mundulus</i> , Reeve.....	XIV.	51	<i>striata</i> (<i>Pectunculus</i>), Da Costa..	XVII.	75
<i>muscaria</i> , Reeve.....	XV.	60	<i>striatissima</i> , Sowerby.....	XXVI.	135
<i>neglecta</i> , Sowerby.....	XIV.	54	<i>strigosa</i> , Lamarck.....	XX.	94
<i>nodosa</i> , Dunker.....	XV.	57	<i>Stuehburii</i> , Gray.....	XV.	59
<i>notata</i> , Say.....	II.	4	<i>subimbricata</i> , Sowerby.....	XIX.	85
<i>Nuttallii</i> , Conrad.....	XIII.	49	<i>subrostrata</i> , Lamarck.....	XIV.	54
<i>obesa</i> (<i>Cytherea</i>), Sowerby.....	XXV.	131	<i>subrugosa</i> , Sowerby.....	XIX.	86
<i>obliqua</i> , Anton.....	II.	4	<i>subnodulosa</i> , Hanley.....	XXI.	102
<i>obovalis</i> (<i>Chione</i>), Deshayes..	XXV.	132	<i>sugillata</i> , Reeve.....	XIII.	43
<i>oblonga</i> , Hanley.....	I.	1	<i>sulcata</i> , Brown.....	XVII.	75
<i>ornatissima</i> , Broderip.....	XVIII.	80	<i>Tasmanica</i> , Reeve.....	XXIV.	121
<i>ovata</i> , Pennant.....	XXVI.	137	<i>tenuilamellata</i> , Sowerby.....	IV.	12
<i>Paphia</i> , Linnæus.....	XIX.	89	<i>tessellata</i> , Adams and Reeve....	XVI.	66
<i>pectinula</i> , Lamarck.....	XXVI.	137	<i>thiara</i> , Dillwyn.....	XXIII.	109
<i>pectorina</i> , Lamarck.....	VIII.	25	<i>tricolor</i> (<i>Tapes</i>), Sowerby.....	III.	8
<i>Pennantii</i> , Forbes.....	XVII.	75	<i>torcuma</i> , Gould.....	XVI.	64
<i>Peronii</i> , Lamarck.....	XX.	93	<i>tuberosa</i> , Deshayes.....	XV.	57
<i>Peruviana</i> , Sowerby.....	XVIII.	79	<i>undatella</i> , Sowerby.....	XVI.	68
<i>pilula</i> , Reeve.....	XV.	58	<i>undulosa</i> , Lamarck.....	XXV.	126
<i>placida</i> , Philippi.....	XXIII.	113	<i>variabilis</i> , Sowerby.....	XXV.	126
<i>plicata</i> , Gmelin.....	XVIII.	81	<i>varicosa</i> , Sowerby.....	XXIV.	125
<i>plumbea</i> , Reeve.....	XVI.	65	<i>Veneriformis</i> (<i>Donax</i>), Lamarck..	XX.	95
<i>præparca</i> , Say.....	II.	4	<i>verrucosa</i> , Linnæus.....	XII.	40
<i>Prideauxii</i> , Couch.....	XVII.	75	<i>violacea</i> , Quoy.....	XX.	90
<i>puerpera</i> , Linnæus.....	IV.	10	<i>Yatesii</i> , Gray.....	XVIII.	84
<i>pulicaria</i> , Broderip.....	VIII.	26	<i>Zelandica</i> , Gray.....	I.	1
<i>pygmæa</i> , Lamarck.....	XXVI.	138			

VENUS.

LIST OF ERRATA.

- Sp. 7. For *V. alboradiata*, Sowerby, read *V. Mortoni*, Conrad, Journ. Acad. Nat. Sci. vol. vii. p. 251 ; and quote *V. alboradiata*, Sowerby, as synonym.
- Sp. 15. *V. casina*.—Add as synonyms *V. consobrina*, Deshayes, and *V. laminosa*, Turton.
- Sp. 30. For *V. costellata*, Sowerby, read *V. antiqua*, King, Zool. Journ. vol. v. p. 336 ; and quote *V. costellata*, Sowerby, as synonym.
- Sp. 33. *V. crenulata*.—Add as synonyms *V. eximia*, Philippi, *V. crenifera*, Sowerby, *Chione crenifera*, Deshayes, and *Venus Portesiana*, D'Orbigny.
- Sp. 39. *V. Lamarckii*, Gray.—Add as synonym *V. nodulosa*, Sowerby.
- Sp. 62. *V. granulata*.—Add as synonym *V. violacea*, Gmelin.
- Sp. 87. *V. callosa*.—Add as synonyms *V. fluctifraga*, Sowerby, and *Chione fluctifraga*, Deshayes.
- Sp. 108. *V. fasciata*.—Add as synonyms *V. decipiens*, Hanley, *Chione decipiens*, Deshayes, and *V. Brongniarti*, Payraudeau.
- Sp. 109. *V. thiara*.—Add as synonym *V. retroversa*, Deshayes.
- Sp. 112. *V. Isabellina*.—Add as synonyms *V. chlorotica*, Philippi, and *Chione chlorotica*, Deshayes.
- Sp. 115. *V. alta*.—Add as synonyms *V. gilva*, Philippi, and *Chione gilva*, Deshayes.



1.



2a.



2b.



3.

VENUS.

PLATE I.

Genus VENUS, Linnæus.

Testa subtrigono-ovata, vel orbicularis, crassiuscula, sæpissime turgida, concentricè lirata vel laminata, interdum, autem raro, radiatim lirata vel striata, ad margines plerumque crenulata. Cardo incrassatus, in utràque valvâ tridentatus, dentibus cardinalibus, divergentibus, interdum bifidis. Impressio pallii posticè sinuoso, sinu breviusculo.

Shell somewhat triangularly ovate or orbicular, rather thick, most frequently turgid, concentrically ridged or laminated, sometimes, but seldom, radiately ridged or striated, generally crenulated at the margins. Hinge thickened, three-toothed in each valve, teeth cardinal, diverging, sometimes bifid. Impression of the mantle sinuated posteriorly, sinus rather short.

The species referred to this genus are conspicuously distinguished from the rest of the family by their elaborate sculpture of concentric ridges variously developed in crenulated and reflected laminæ, sometimes crossed in the interstices with radiating striæ, and by their turgid growth. They are about equally distributed in the two hemispheres, in one chiefly on the west coast of America, especially Central America, and the West Indies, in the other chiefly among the Philippine Islands, Australia, and New Zealand. Seven species inhabit European seas, of which five are natives of our own shores. The laminated species, of which the beautiful Tasmanian *V. lamellata*, the *V. plicata*, *paphia*, *thiara*, and others are characteristic examples, are separated, however, by some authors under the generic name of *Chione*. The United States possess a very large species, *V. mercenaria*, which has been subdivided into four species, and then set apart as a genus of itself. A genus has also been made, *Gemma*, of a small pellucid species, which inhabits the same locality, and has been regarded as the fry of *V. mercenaria*. Lastly a small group of half-a-dozen species, of a peculiar flexuous form, inhabiting the West Indies and Central America, have been raised somewhat unnecessarily, for the animal is not known, to the rank of a separate genus, with the name *Anomalocardia*.

The *Veneres* are not remarkable for colour. A few of the species, chiefly those referred to *Chione*, are gaily painted, but the predominant tone is fulvous cream-colour, more or less indistinctly marked with rust-brown.

Species 1. (Mus. Cuming.)

VENUS OBLONGA. *Ven. testâ oblongo-ovatâ, subobliquâ, valde inæquilaterali, subdepressè convexâ, squalidè fusciscente-albâ, concentricè densè lamellato-liratâ, liris plus minus reflexis.*

THE OBLONG VENUS. Shell oblong-ovate, rather oblique, very inequilateral, rather depressly convex, dull fuscous-white, concentrically densely lamellately ridged, ridges more or less reflected.

Venus oblonga, Hanley, Ind. Test. Supp. pl. 16. f. 1.

Venus Zelandica, Gray.

Hab. New Zealand.

Varying occasionally in form in being more or less convex and lamellated, but always of the same dull colourless hue.

Species 2. (Fig. a, b, Mus. Cuming.)

VENUS LIMA. *Ven. testâ pectinato-ovatâ, albidâ, aurantio-fusco sparsim variegatâ, radiatim modicè costatâ, costis rotundatis, imbricato-squamatis, lunulâ fulco-fuscescente.*

THE FILE VENUS. Shell pectinately ovate, whitish, sparingly variegated with orange-brown, radiately moderately ribbed, ribs rounded, imbricately scaled, lunule fulvous-brown.

Tapes lima, Sowerby, Thes. Conch. vol. i. p. 698. pl. 151. f. 144.

Chione lima, Deshayes.

Hab. New Zealand.

A scabrous radiately-ribbed species belonging to the pectinate division of the genus.

Species 3. (Mus. Cuming.)

VENUS CLATHRATA. *Ven. testâ cordato-ovatâ, subobliquâ, crassâ, ventricosâ, lacteâ, rufescente-spadiceo pallidè maculatâ et radiatâ, concentricè densè lirata, liris irregularibus, prope umbones tenuibus, deinde callosis et planatis, sulcis linearibus radiantibus undique clathratis, liris ad aream posticam serrato-laminatis.*

THE LATTICED VENUS. Shell cordately ovate, rather

oblique, thick, ventricose, cream-coloured, faintly blotched and rayed with reddish-fawn, concentrically densely ridged, ridges irregular, near the umboes thin, then callous and flattened, latticed throughout with radiating linear grooves, ridges on the posterior area serrately laminated.

DESHAYES, Pro. Zool. Soc. 1853, p. 3.

Venus Listeri, var., Sowerby.

Hab. — ?

It is somewhat doubtful whether M. Deshayes is correct in separating this from *V. Listeri*. There is strong evidence of its being a large callously-sculptured form of that species.



4a.



5.



6.



4b.

VENUS.

PLATE II.

Species 4. (Fig. *a, b*, Mus. Cuming.)

VENUS MERCENARIA. *Ven. testā subtrigono-cordatā, compressiusculā, sordidè fulvo-ferrugineā, in testā juniore fusco acutè undulato concentricè fasciatā, intus interdum nigricante-violaceā, densè concentricè striatā, præcipuè ad latera, latere postico obscure flexuoso, obliquè curvato, antico brevi, lunulā conspicuā, sæpè purpureo-castaneā.*

THE TRADE VENUS. Shell somewhat triangularly heart-shaped, rather compressed, dirty fulvous rust-colour, concentrically banded in the young shell with zigzag brown, sometimes deep-violet within, densely concentrically striated, especially at the sides, posterior side obscurely flexuous, obliquely curved, anterior short, lunule conspicuous, often purple-chestnut.

LINNÆUS, Syst. Nat. ed. 12, p. 1131.

Venus notata, Say.

Venus præparca, Say.

Venus obliqua, Anton.

Venus cyprinoides, Anton.

Hab. North America.

This species inhabits the Massachusetts shores of North America in greater or less abundance, and, as its name denotes, is used as an article of commerce. Dr. Gould mentions that in the markets of New York and Philadelphia, where *Venus mercenaria* is known by the name of Quahog, it is even more in request as an article of food than the *Mya arenaria*. Mr. Say's *V. notata* is the shell in a young state, marked with bands of zigzag brown, as

represented at Fig. 4 *a*. His *V. præparca* is the same without markings.

Species 5. (Mus. Cuming.)

VENUS SCULPTA. *Ven. testā orbiculari, subglobosā, albidā, fusco sparsim maculatā, areā ligamenti fuscā, concentricè liratā, liris regularibus, crispato-crenatis, subreflexis.*

THE SCULPTURED VENUS. Shell orbicular, rather globose, whitish, sparingly spotted with brown, ligament area brown, concentrically ridged, ridges regular, crispately crenated, slightly reflected.

DESHAYES, Pro. Zool. Soc. 1853, p. 3.

Hab. — ?

The ridges of this species are a little reflected and curiously crisply crenated.

Species 6. (Mus. Cuming.)

VENUS SPHÆRISULCA. *Ven. testā subtrigono-globosā, crassā, calcareo-albā, concentricè liratā, liris latiusculis, plicato-planatis, valde irregularibus.*

THE SPHERE-GROOVED VENUS. Shell somewhat triangularly globose, thick, chalk-white, concentrically ridged, ridges rather broad, plicately flattened, very irregular.

DESHAYES, MS. in Mus. Cuming.

Hab. — ?

The ridges range concentrically over the shell in very irregular flattened folds.

April, 1863.

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7.



8a.



8b.



9.

VENUS.

PLATE III.

Species 7. (Mus. Cuming.)

VENUS ALBORADIATA. *Ven. testā ovatā, subventricosā, fulvo-griseā, carneo et albo radiatā, concentricè irregulariter liratā, ad latera densè tenui-lamellatā, latere postico subflexuoso.*

THE WHITE-RAYED VENUS. Shell ovate, rather ventricose, fulvous-grey, rayed with flesh and white, concentrically irregularly ridged, at the sides densely thinly laminated, posterior side slightly flexuous.

SOWERBY, Thesaurus Conch. part xiv. p. 732. pl. 161. f. 199.

Hab. Gulf of Mexico.

A rather ventricose shell, faintly rayed with white and flesh-colour, which is more ruddy and broken up into spots towards the umboes.

Species 8. (Fig. a, b, Mus. Cuming.)

VENUS GRATA. *Ven. testā subquadrato-ovatā, albidā, cinereo-griseo et fusco variè nebulatā, strigatā, et tessellatā, intus interdum nigricante-violaceā, decussatim liratā et sulcatā, liris ad latera nodulatis, liris medianis posticè angulatis, latere postico subcompressè truncato, antico brevi, rotundato.*

THE WELCOME VENUS. Shell somewhat squarely ovate, whitish, variously clouded, streaked, and tessellated with ash-grey and brown, sometimes dark-violet in the interior, decussately ridged and grooved, ridges noduled at the sides, middle ridges angled poste-

riorly, posterior side rather compressly truncated, anterior short, rounded.

SAY, American Conchology, pl. 36.

Tapes grata, Sowerby.

Tapes tricolor, Sowerby.

Hab. Gulf of Mexico.

In this prettily-painted species the middle ridges radiating from the umboes to the margin are pressed to an angle posteriorly.

Species 9. (Mus. Cuming.)

VENUS MULTICOSTATA. *Ven. testā elliptico-ovatā, subventricosā, crassā, fulco-spadiceā, carneo-fuscescente obscurè radiatā, densè concentricè costatā, costis lamello-recurvis, noduloso-crenatis, costis ad latera undulatis, nodulis evanidis, interstitiis costarum excavatis et crenatis.*

THE MANY-RIBBED VENUS. Shell elliptically ovate, rather ventricose, thick, fulvous-drab, obscurely rayed with flesh-brown, densely concentrically ribbed, ribs lamellarly recurved, nodulously crenated, ribs waved at the sides, nodules fading away, interstices between the ribs excavated and crenated.

SOWERBY, Pro. Zool. Soc. 1835, p. 22.

Hab. Bay of Panama (in coarse sand at low water); Cuming.

I doubt if this is anything more than a variety of *V. Listeri*, in which the ribs are more tumidly thickened and recurved.

April, 1863.

1877

1877

Received of the Treasurer of the
Board of Education the sum of
\$100.00 for the year 1877

Witness my hand and seal this
1st day of January 1877

Attest
The Secretary of the Board of Education

Received of the Treasurer of the
Board of Education the sum of
\$100.00 for the year 1877

Witness my hand and seal this
1st day of January 1877

Attest
The Secretary of the Board of Education

1877



10.



11.



12.



13.

VENUS.

PLATE IV.

Species 10. (Mus. Cuming.)

VENUS PUERPERA. *Ven. testâ orbiculari-cordatâ, ventricosâ, crassâ, albidâ, griseo radiatâ, ferrugineo-fusco præcipuè ad latus posticum tinctâ et maculatâ, radiatim densè obtusè costatâ, concentricè laminatâ, laminis subdistantibus, sæpe irregularibus, latere postico subflexuoso-truncato, antico brevissimo.*

THE VENTRICOSE VENUS. Shell orbicularly heart-shaped, ventricose, thick, whitish rayed with grey, spotted and stained, especially on the posterior side, with rust-brown; radiately closely obtusely ribbed, concentrically laminated, laminæ rather distant, often irregular, posterior side slightly flexuously truncated, anterior very short.

LINNÆUS, Mantissa, p. 545.

Hab. Philippine Islands; Cuming.

The rust-stained colouring of this well-known species is not an unimportant character.

Species 11. (Mus. Cuming.)

VENUS FOVEOLATA. *Ven. testâ suborbiculari, compressiusculâ, fulvescente-albâ, ad latera carneo tinctâ, concentricè densè lamellatâ, lamellis rugosis, valde irregularibus, lunulâ subamplâ, areâ ligamenti elongato-excavatâ.*

THE PITTED VENUS. Shell somewhat orbicular, rather compressed, yellowish-white, flesh-tinged at the sides, concentrically densely lamellated, lamellæ rough, very irregular, lunule rather large, ligamentary area elongately excavated.

SOWERBY, Thes. Conch. part xiv. p. 730.

Hab. Martinique.

The name of this species is apt to mislead; it does not

refer to any sculpture of small pits, but to a characteristic elongated excavation of the ligamentary area.

Species 12. (Mus. Cuming.)

VENUS TENUILAMELLATA. *Ven. testâ ovatâ, subcuneiformi, sordidè calcareo-albâ, concentricè lamellatâ, lamellis subregularibus, recurviusculis, ad latus anticum corrugatis, latere postico oblongo, subtruncato.*

THE THINLY-LAMELLATED VENUS. Shell ovate, somewhat wedge-shaped, dull chalk-white, concentrically lamellated, lamellæ rather regular, a little recurved, wrinkled at the anterior side, posterior side oblong, slightly truncated.

SOWERBY, Thes. Conch. part xiv. p. 733.

Hab. Valparaiso (in sandy mud at twenty fathoms); Cuming.

Of a dull chalk-white character, with the ridges rather inclined to form irregular wrinkles on the anterior side.

Species 13. (Mus. Cuming.)

VENUS EXALBIDA. *Ven. testâ subelliptico-ovatâ, sordidè calcareo-albâ, concentricè densè elevato-striatâ, striis rudibus, valde irregularibus, latere postico curvato et flexuoso-truncato.*

THE WHITE VENUS. Shell somewhat elliptically ovate, dull chalk-white, concentrically densely elevately striated, striæ rude, very irregular, posterior side curved and flexuously truncated.

CHEMNITZ, Conch. Cab. vol. xi. p. 225. pl. 202. f. 1974.

Hab. Strait of Magellan.

A densely rudely striated chalk-white shell, peculiarly curved and flexuously striated down the posterior side.



14.



15.



16.



17.

VENUS.

PLATE V.

Species 14. (Mus. Cuming.)

VENUS LISTERI. *Ven. testā subquadrato-ovatā, ventricosā, fulvescente-albā, carneo-fuscescente obscure lenticinosā, concentricè laminatā, laminis ad latus posticum tenuibus, erectis, ad anticum tumidis, recurvis, laminis omnibus interstitiisque costellis radiantibus crenulatis, latere postico subtruncato.*

LISTER'S VENUS. Shell somewhat squarely ovate, ventricose, fulvous-white, obscurely freckled with flesh-brown, concentrically laminated, laminæ thin and erect on the posterior side, swollen and recurved on the anterior, all the laminæ and interstices crenulated with small radiating ribs, posterior side slightly truncated.

Dosina Listeri, Gray, Analyst, 1838.

Venus Listeri, Sowerby.

Hab. Philippine Islands; Cuming.

The laminæ, which from being crowded together on the anterior side are swollen and recurved, are on the posterior side, thin, free, and erect.

Species 15. (Mus. Cuming.)

VENUS CASINA. *Ven. testā subquadrato-orbiculari, calcareo-albā, interdum spadiceo-roseo maculatā et biradiatā, concentricè costatā et liratā, costis lirisque valde irregularibus, plus minus plicato-recurvis, ad latus posticum erecto-lamellatis.*

THE CHAMBERED VENUS. Shell somewhat squarely orbicular, chalk-white, sometimes spotted and two-rayed with fawn-rose, concentrically ribbed and ridged, ribs and ridges very irregular, more or less plicately recurved, erectly lamellated at the posterior side.

Venus casina, Linnæus, Syst. Nat. p. 1130.

Pectunculus membranaceus, Da Costa.

Venus reflexa, Montagu.

Venus lactea, Donovan.

Venus discina, Lamarck.

Venus Rusterusii, Payraudeau.

Cytherea reflexa, Couch.

Hab. European Seas.

The British specimens of this well-known species are rarely coloured, excepting in an early stage of growth. They are mostly a dull stone-white, with the ribs and ridges more or less reflected.

Species 16. (Mus. Cuming.)

VENUS ROSALINA. *Ven. testā subtrigono-ovatā, gibbosiusculā, fulvescente-albā, spadiceo-roseo tinctā et radiatim promiscuè grandimaculatā, concentricè costatā, costis latiusculis, solidis, plano-obtusis, ad extremitatem posticam plicato-auriculatis.*

THE ROSY VENUS. Shell somewhat triangularly ovate, rather gibbous, fulvous-white, tinged and radiately promiscuously blotched with fawn-rose, concentrically ribbed, ribs rather broad, solid, flatly obtuse, plicately auriculated at the posterior end.

RANG, Guérin, Mag. de Zool. 1834, class v. pl. 42.

Hab. Island of Goree, West Africa.

This shell is not of the same quadrate form as *V. casina*, and the colouring and sculpture are of a distinct character.

Species 17. (Mus. Cuming.)

VENUS MAGNIFICA. *Ven. testā globoso-cordatā, crassā, ponderosā, fulvescente-albā, ferrugineo-fusco tinctā et circa umbones maculatā, nigricante-violaceo concentricè fasciatā, radiatim confertim lineari-sulcatā, concentricè liratā, liris distantibus, vix laminatis, ad latus anticum obtusè subfimbriatis.*

THE MAGNIFICENT VENUS. Shell globosely heart-shaped, thick, heavy, fulvous-white, stained and spotted about the umboes with rust-brown, concentrically banded with dark-violet, radiately closely linearly grooved, concentrically ridged, ridges distant, scarcely laminated, slightly obtusely fimbriated on the anterior side.

SOWERBY, Thes. Conch. part xiv. p. 704. pl. 153. f. 5.

Hab. Island of Ticao, Philippines; Cuming.

A globose violet-banded shell, quite distinct from any form of *V. puerpera*.

April, 1863.



18.



19 a.



19 b.



20.

VENUS.

PLATE VI.

Species 18. (Mus. Cuming.)

VENUS LACERATA. *Ven. testâ subquadrato-ovatâ, valde inæquilaterali, ventricosâ, lacteâ, violaceo-fusco obscure interruptè radiatâ, liris parvis obtusis concentricis et radiantibus undique fimbriato-decussatâ.*

THE TORN VENUS. Shell somewhat squarely ovate, very inequilateral, ventricose, cream-white, obscurely interruptedly rayed with violet-brown, fimbriately decussated throughout with concentric and radiating small obtuse ridges.

HANLEY, Pro. Zool. Soc. 1844, p. 161.

Hab. Island of Zebu, Philippines; Cuming.

Closely allied to *V. puerpera*, lighter and more delicate in colour and sculpture, elaborately decussated.

Species 19. (Fig. a, b, Mus. Cuming.)

VENUS ASPERRIMA. *Ven. testâ ovatâ, depressiusculâ, superne subtrigonâ, calcareo-albâ, violaceo-fusco interdum radiatim maculatâ, radiatim acutè multiliratâ, lirâ minutâ in interstitiis, liris radiantibus liris tenuibus concentricis elaboratè clathratis.*

THE ROUGH VENUS. Shell ovate, rather depressed, somewhat triangular at the upper part, chalk-white, sometimes radiately blotched with violet-brown, radiately

sharply many-ridged, with a minute ridge in the interstices, radiating ridges elaborately latticed with fine concentric ridges.

SOWERBY, Pro. Zool. Soc. 1835 p. 41.

Hab. Guacamayo, Central America (in sandy mud, at a depth of thirteen fathoms); Cuming.

A form of *V. pectorina*, in which the shell is of lighter substance, broader and more depressed, with the sculpture more elaborately and definitely latticed.

Species 20. (Mus. Cuming.)

VENUS LAQUEATA. *Ven. testâ subgloboso-ovatâ, ventricosâ, fulvo-spadiceâ, violaceo-fusco pallidè radiatâ, concentricè valde laminatâ, laminis erectis, undique arcuatè laqueatis, interstitiis subtiliter radiatim liratis, liris planis, duplicis.*

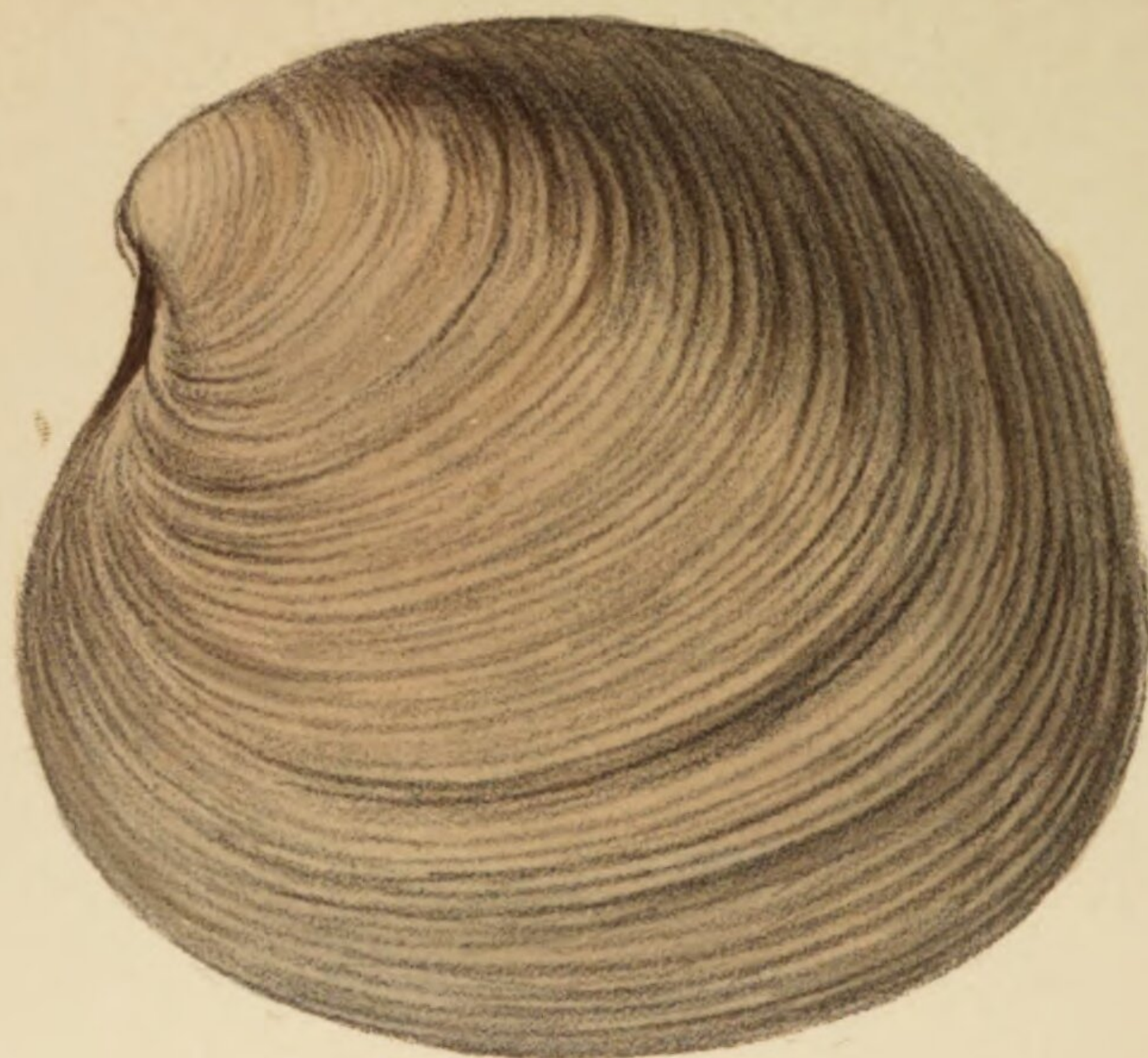
THE FLUTED VENUS. Shell somewhat globosely ovate, ventricose, fulvous-drab, faintly rayed with violet-brown, concentrically strongly laminated, laminae erect, arcuately fluted throughout, interstices finely radiately ridged, ridges flat, duplicate.

SOWERBY, Thes. Conch. part xiv. p. 706. pl. 153. f. 15.

Hab. Swan River, Australia; Jukes.

A solid ventricose shell, crowded throughout with arcuately fluted concentric laminae.

April, 1863.



21.



22a.



22b.



23.

VENUS.

PLATE VII.

Species 21. (Mus. Cuming.)

VENUS LENTICULARIS. *Ven. testā quadrato-orbiculari, valde inæquilaterali, crassā, depressā, sordidè calcareo-albā, concentricè densè rudè striatā, striis irregularibus, latere postico subflexuoso.*

THE LENS-SHAPED VENUS. Shell squarely orbicular, very inequilateral, thick, depressed, dull chalk-white, densely concentrically rudely striated, striæ irregular, posterior side slightly flexuous.

SOWERBY, Pro. Zool. Soc. 1835, p. 42.

Hab. Valparaiso Bay (in coarse sand, at low water); Cuming.

A dull-white heavy shell, almost smooth, with the peculiar depressed quadrately orbicular form of *Artemis*.

Species 22. (Fig. a, b, Mus. Cuming.)

VENUS DISCORS. *Ven. testā obliquè ovatā, depressiusculā, albidā, violaceo-fusco plus minus tinctā, radiatim profusè plano-liratis, liris posticè angulatis, liris anticis decussatim crenatis.*

THE DIFFERING VENUS. Shell obliquely ovate, rather depressed, whitish, more or less stained with violet-brown, radiately profusely flatly ribbed, ridges angled along the posterior edge, anterior ridges decussately crenated.

SOWERBY, Pro. Zool. Soc. 1835, p. 42.

Tapes discors, Sowerby Junr.

Hab. St. Elena and Guacamayo, Central America (in sandy mud at six to nine fathoms); Cuming.

The concentric ridges by which the anterior radiating ridges are crenated cease rather abruptly at a distance, from the interior extremity, of rather more than a third of the shell.

Species 23. (Mus. Cuming.)

VENUS RUGOSA. *Ven. testā subgloboso-cordatā, ventricosā, fulvo-spadiceā, roseo-fuscescente obscurè tinctā et maculatā, concentricè undique validè costatā, costis regularibus, laminato-recurvis, interstitiis excavatis, crispato-indentatis et striatis.*

THE WRINKLED VENUS. Shell somewhat globosely heart-shaped, ventricose, fulvous-drab, obscurely tinged and spotted with rose-brown, strongly concentrically ribbed throughout, ribs regular, laminately recurved, interstices excavated, crisply indented and striated.

GMELIN, Syst. Nat. p. 3276.

Venus cincta, Chemnitz.

Venus rigida, Dillwyn.

Hab. West Indies.

A globose heart-shaped shell, ribbed with great regularity, the ribs being smooth, laminately curved over towards the umboes.

April, 1863.

VERUS

PLATE VII

Species 21 (Males) (Linn.)
The male of this species is very similar to the female, but the coloration is more uniform. The head is brown, the eyes are large and dark, and the body is covered with a fine, brown, granular texture. The legs are also brown and the feet are small and dark.

Species 22 (Males) (Linn.)
The male of this species is very similar to the female, but the coloration is more uniform. The head is brown, the eyes are large and dark, and the body is covered with a fine, brown, granular texture. The legs are also brown and the feet are small and dark.

Species 23 (Males) (Linn.)
The male of this species is very similar to the female, but the coloration is more uniform. The head is brown, the eyes are large and dark, and the body is covered with a fine, brown, granular texture. The legs are also brown and the feet are small and dark.

Species 24 (Males) (Linn.)
The male of this species is very similar to the female, but the coloration is more uniform. The head is brown, the eyes are large and dark, and the body is covered with a fine, brown, granular texture. The legs are also brown and the feet are small and dark.



24.



25.



26.



27.

VENUS.

PLATE VIII.

Species 24. (Mus. Cuming.)

VENUS SOWERBYI. *Ven. testá ovatá, ventricosá, crassá, flavescence-albá, rosaceo-fusco interruptè radiatá, concentricè irregulariter laminatá, laminis fimbriato-crenatis, interstitiis elaboratè radiatim liris.*

SOWERBY'S VENUS. Shell ovate, ventricose, thick, yellowish-white, interruptedly rayed with rose-brown, concentrically irregularly laminated, laminæ fimbriately crenated, interstices elaborately radiately ridged.

DESHAYES, Pro. Zool. Soc. 1853, p. 2.

Hab. Philippine Islands; Cuming.

A very solid ventricose shell, in which the concentric laminæ are obtusely fimbriately crenated.

Species 25. (Mus. Cuming.)

VENUS PECTORINA. *Ven. testá ovato-cordatá, supernè subtrigoná, fulvo-ferrugineá, violaceo-fusco plus minus posticè maculatá, radiatim multiliratá, lirá minutá interveniente, liris tenuibus concentricis elaboratè clathratá.*

THE HEART-SHAPED VENUS. Shell ovately heart-shaped, slightly triangular at the upper part, fulvous-rust, more or less blotched on the posterior side with violet-brown, radiately many-ridged, with a minute ridge intervening, elaborately latticed with fine concentric ridges.

LAMARCK, Anim. sans vert. p. 344.

Venus cardioides, Lamarck.

Hab. Central America.

Of rather a cockle-like form, tinged with a fulvous-rust colour and elaborately cancellated.

Species 26. (Mus. Cuming.)

VENUS CINGULATA. *Ven. testá trigono-ovatá, fulvescente, lineis acutè undulatis fuscis pictá, areá ligamenti fusco conspicuè strigatá, concentricè costatá, costis primis laminatis et subtiliter crenulatis, cæteris incrassatis, obtusis.*

THE BELTED VENUS. Shell triangularly ovate, fulvous, painted with zigzag brown lines, ligamentary area conspicuously striped with brown, concentrically ribbed, the first ribs laminated and finely crenulated, the rest thickened and obtuse.

LAMARCK, Anim. sans vert. p. 345.

Venus pulicaria, Broderip.

Hab. West Columbia; Cuming.

The concentric ribs, which in the early growth of the shell are thin and laminated, and crenulated, become gradually more and more thickened and obtuse.

Species 27. (Mus. Cuming.)

VENUS RESTICULATA. *Ven. testá subquadrato-cordatá, ventricosá, crassá, albidá, circa umbones ferrugineo tinctá et fusco maculatá, concentricè densè laminatá, laminis tumido-crenatis et subrecurvis, interstitiis radiatim obtusè crenatis.*

THE CORDED VENUS. Shell somewhat squarely heart-shaped, ventricose, thick, whitish, rust-tinged and spotted with brown about the umboes, concentrically densely laminated, laminæ tumidly crenated and a little recurved, interstices radiately obtusely ridged.

SOWERBY, Thes. Conch. part xiv. p. 706.

Hab. Philippine and Society Islands and Madagascar.

A solid globosely cordate shell, sculptured with stout concentric laminæ, having almost the consistency of ribs, crenated and fluted throughout in a rather callous manner.



28.



29.



30.



31.

VENUS.

PLATE IX.

Species 28. (Mus. Cuming.)

VENUS COR. *Ven. testā trapeziformi-globosā, tenuiculā, inflatā, sordidè albā, plus minus ferrugineo tinctā, concentricè liratā, liris obtusis, valde irregularibus, hic illic undulatis.*

THE HEART VENUS. Shell trapeziformly globose, rather thin, inflated, dull-white, more or less rust-stained, concentrically ridged, ridges obtuse, numerous, very irregular, here and there undulated.

SOWERBY, Thes. Conch. part xiv. p. 727. pl. 160. f. 184.

Hab. Kurachee, mouth of the Indus.

A light trapeziformly globose shell, sculptured with concentric ridges, which are very irregular and undulating.

Species 29. (Mus. Cuming.)

VENUS DOMBEII. *Ven. testā orbiculari-ovatā, subdepressā, sordidè fuscescente-albā, fuscescente radiatim undulatā et lentiginosā, undique obtusè crenato-decussatā.*

DOMBEY'S VENUS. Shell orbicularly ovate, rather depressed, dull brownish-white, radiately waved and freckled with light-brown, everywhere obtusely, crenately decussated.

LAMARCK, Anim. sans vert. p. 346.

Venus Chilensis, Sowerby.

Tapes Dombeyi, Sowerby, Jun.

Hab. Valparaiso Bay; Cuming.

This shell has very much the form and sculpture, but not the whiteness, of a *Lucina*.

Species 30. (Mus. Cuming.)

VENUS COSTELLATA. *Ven. testā subquadrato-ovatā, sordidè albā, ferrugineo tinctā, radiatim tenuicostatā, costis planis, confertis, liris obtusis concentricis irregularibus decussatis.*

THE FINELY-RIBBED VENUS. Shell somewhat squarely ovate, dull-white, rust-stained, radiately finely ribbed, ribs flat, close-set, decussated with obtuse irregular concentric ridges.

SOWERBY, Pro. Zool. Soc. 1835, p. 42.

Dosina antiqua, Gray.

Hab. Chili and Peru (in coarse sand from six to fifteen fathoms); Cuming.

A dull stone-coloured shell very rudely irregularly decussated.

(x) 31.

(x)

Species 31. (Mus. Cuming.)

VENUS CRISPATA. *Ven. testā ovatā, crassiusculā, albidā, rufo-fusco undatā et radiatim fasciatā, concentricè crenato-laminatā, laminis tumidiusculis, confertis, interstitiis radiatim liris, liris subdistantibus.*

THE CRISPED VENUS. Shell ovate, rather thick, whitish, waved and radiately banded with red-brown, concentrically crenately laminated, laminae rather swollen, close-set, interstices radiately ridged, ridges rather distant.

DESHAYES, Pro. Zool. Soc. 1853, p. 2.

Hab. —?

Of a peculiar regularly convex oval form, with the concentric laminae close-set and very crowded on the anterior side.

LETTER

Spokane, 26 (Blue) (1887)

Dear Sir: I have the honor to acknowledge the receipt of your letter of the 24th inst. in relation to the matter of the proposed extension of the Northern Pacific Railway. I have the honor to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Yours very truly,
J. M. Smith

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Spokane, 26 (Blue) (1887)

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Yours very truly,
J. M. Smith

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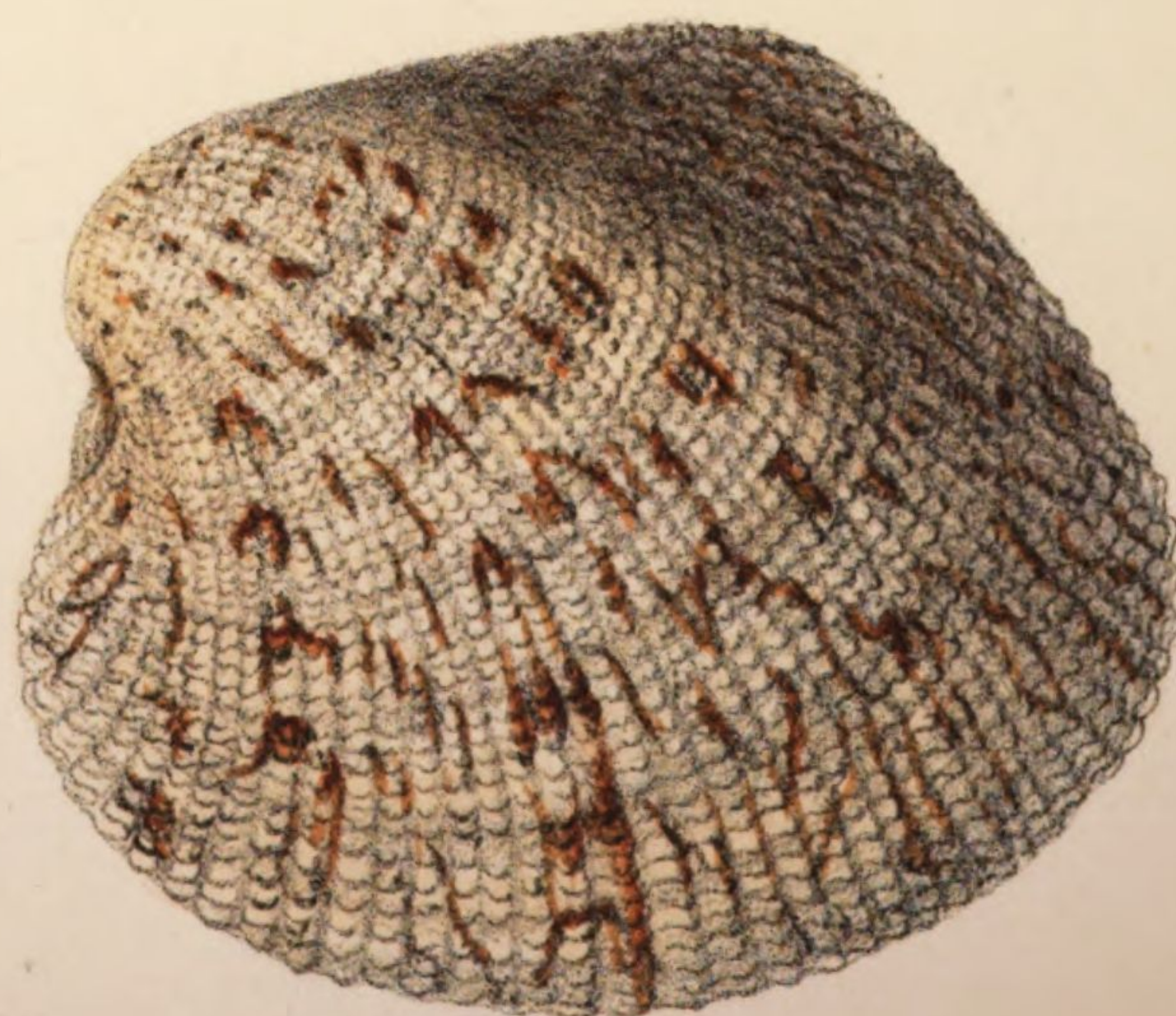
32.a.



32.b.



33.



34.

VENUS.

PLATE X.

Species 32. (Fig. *a*, *b*, Mus. Cumming.)

VENUS CHEMNITZII. *Ven. testā ovatā, fulvescente-albā, rufo-fusco acutè undatā et radiatim fasciatā, concentricè densè laminatā, laminis tenuibus, fimbriato-la-queatis, interstitiis radiatim liris, liris subdistantibus.*

CHEMNITZ'S VENUS. Shell ovate, yellowish-white, sharply waved and radiately banded with red-brown, concentrically densely laminated, laminæ thin, fimbriately fluted, interstices radiately ridged, ridges rather distant.

HANLEY, Pro. Zool. Soc. 1844, p. 160.

Hab. Island of Ticao, Philippines; Cumming.

In this species the concentric lamellæ are extremely thin and delicately fimbriately fluted. The colour is disposed in sharply zigzag waves.

Species 33. (Mus. Cumming.)

VENUS CRENULATA. *Ven. testā trigono-ovatā, subventricosā, albidā, rufo-fusco profusè maculatā et undatā, concentricè laminato-liratā, liris confertis, elevatiusculis, crenulatis, ad latus anticum subrecurvis, ad posticum tenuibus, erectis, laqueatis, interstitiis radiatim crispato-striatis.*

THE CRENULATED VENUS. Shell triangularly ovate, rather ventricose, whitish, profusely spotted and waved with red-brown, concentrically laminately

ridged, ridges close-set, rather elevated, crenulated, a little recurved on the anterior side, on the posterior thin, erect, fluted, interstices radiately crispately striated.

CHEMNITZ, Conch. Cab. vol. vi. p. 370. pl. 36. f. 385.

Venus crenata, Gmelin.

Hab. West Indies.

A very elaborately sculptured shell, of a triangularly ovate form, profusely wave-painted with red-brown.

Species 34. (Mus. Cumming.)

VENUS RETICULATA. *Ven. testā quadrato-ovatā, suboblongā, albā vel fusciscente, rufo-fusco lineari-undatā et maculatā, undique densè crenato-reticulatā, latere postico supernè subalato.*

THE RETICULATED VENUS. Shell squarely ovate, rather oblong, white or brownish, spotted and linearly waved with red-brown, everywhere closely crenately reticulated, posterior side slightly winged at the upper part.

LINNÆUS, Mus. Ulr. p. 503.

Venus corbis, Lamarck.

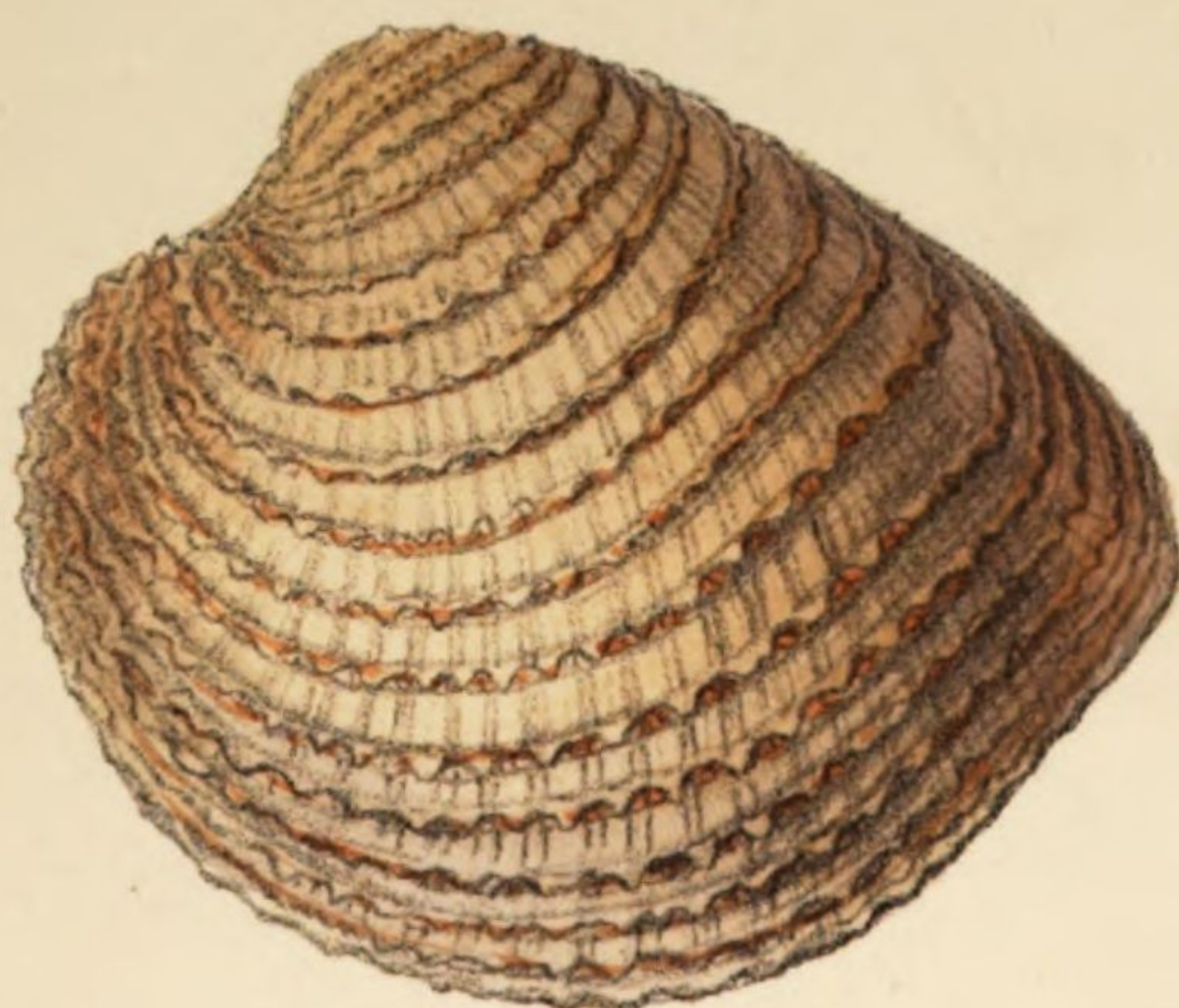
Hab. Philippine Islands, etc.

A constant peculiarity of this well-known species consists in the hinge teeth being of a bright orange-red colour.

April, 1863.



35



36^a



36^b



37

VENUS.

PLATE XI.

Species 35. (Mus. Cuming.)

VENUS CALIFORNIENSIS. *Ven. testā orbiculari-cordatā, subobliquā, valde inæquilaterali, pallidè fulvo-cinereā, concentricè erecto-laminatā, laminis versus marginem obtusis, confertis, interstitiis longitudinaliter liratis, liris irregularibus, transversim corrugato-striatis, areā ligamenti ampliter concavo-excavatā.*

THE CALIFORNIAN VENUS. Shell orbicularly heart-shaped, rather oblique, very inequilateral, pale fulvous-ash, concentrically erectly laminated, laminæ obtuse and crowded towards the margin, interstices longitudinally ridged, ridges irregular, transversely wrinkle-striated, ligamentary area largely concavely excavated.

BRODERIP, Pro. Zool. Soc. 1835, p. 43.

Venus leucodon, Sowerby.

Hab. Guaymas, Gulf of California (in sandy mud at low water); Cuming.

This fine species, it will be seen, is of remarkably cordate growth, but at the same time orbicularly depressed. The ligamentary area is unusually large and rather sharply concavely excavated.

Species 36. (Fig. a, b, Mus. Cuming.)

VENUS AMATHUSIA. *Ven. testā subtrigono-ovatā, fulvo-spadiceā, concentricè laminatā, laminis nunc confertis, nunc distantibus, crenatis et erectè muricato-squamatis, interstitiis longitudinaliter liratis, liris binis, latere postico subflexuoso, lunulā et areā ligamenti violaceo-tinctis.*

THE AMATHUSIA VENUS. Shell somewhat triangularly

ovate, fulvous-drab, concentrically laminated, laminæ sometimes close-set, sometimes distant, crenated and erectly prickly-scaled, interstices longitudinally ridged, ridges in pairs, posterior side rather flexuous, lunule and ligamentary area tinged with violet.

PHILIPPI, Abbild. und Besch. Conch. pl. 11. f. 4.

Hab. Gulf of California.

Chiefly distinguished from *V. Gnidia* by its more triangularly ovate form, and by the more flexuously produced growth of the posterior extremity. The radiating ridges in the interstices between the laminæ are moreover more distinctly set in pairs without any intermediate raised stria or smaller ridge.

Species 37. (Mus. Cuming.)

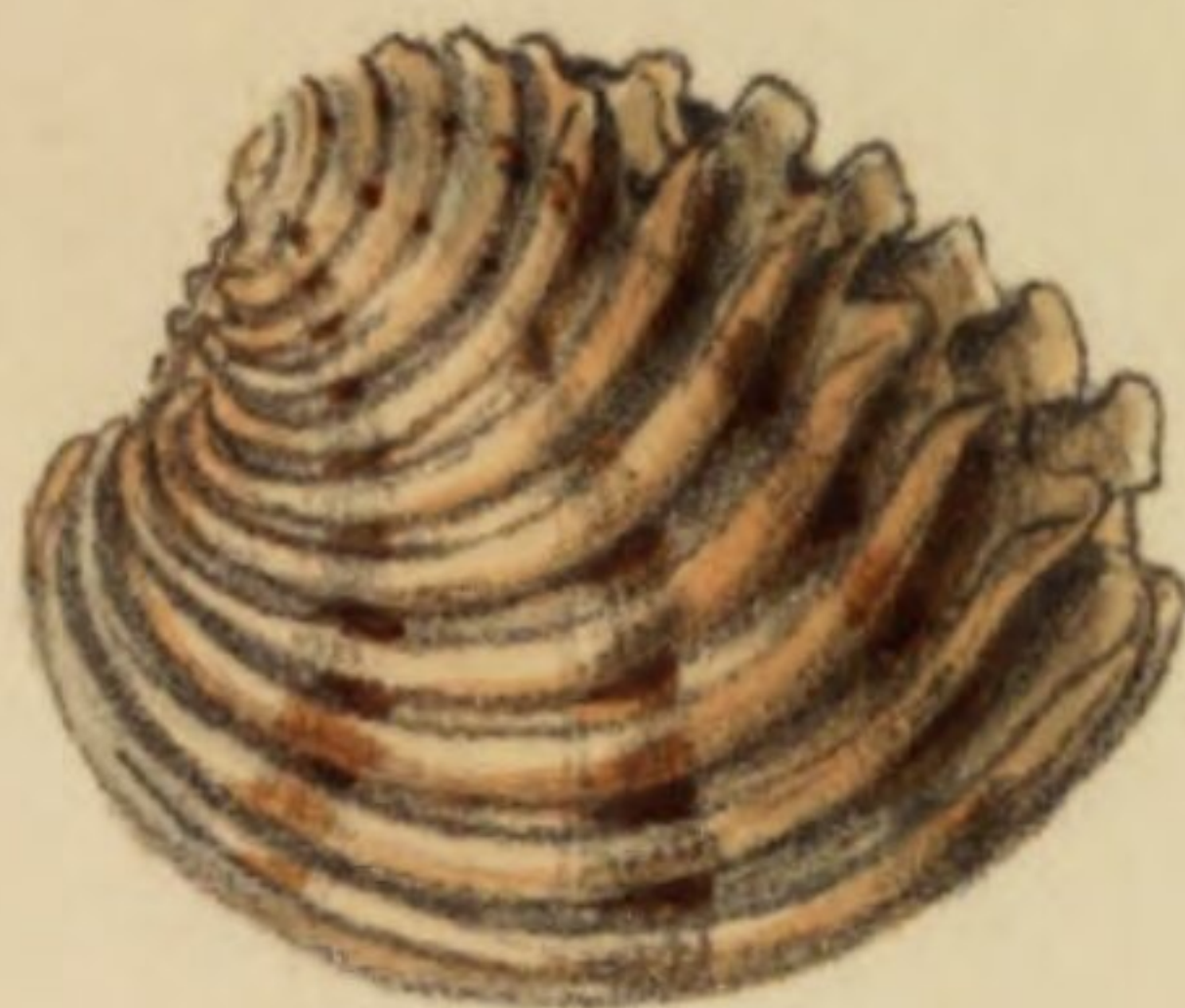
VENUS GNIDIA. *Ven. testā subtrigono-ovatā, ventricosiusculā, fulvescente-spadiceā, concentricè laminatā, laminis crenatis et erectè muricato-squamatis, interstitiis radiatim liratis, liris vix binis, lirā minutā interveniente.*

THE GNIDIA VENUS. Shell somewhat triangularly ovate, rather ventricose, fulvous drab, concentrically laminated, laminæ crenated and erectly prickly-scaled, interstices radiately ridged, ridges scarcely in pairs, with a small ridge intervening.

BRODERIP and SOWERBY, Zool. Journ. vol. iv. p. 364.

Hab. San Blas, Mexico.

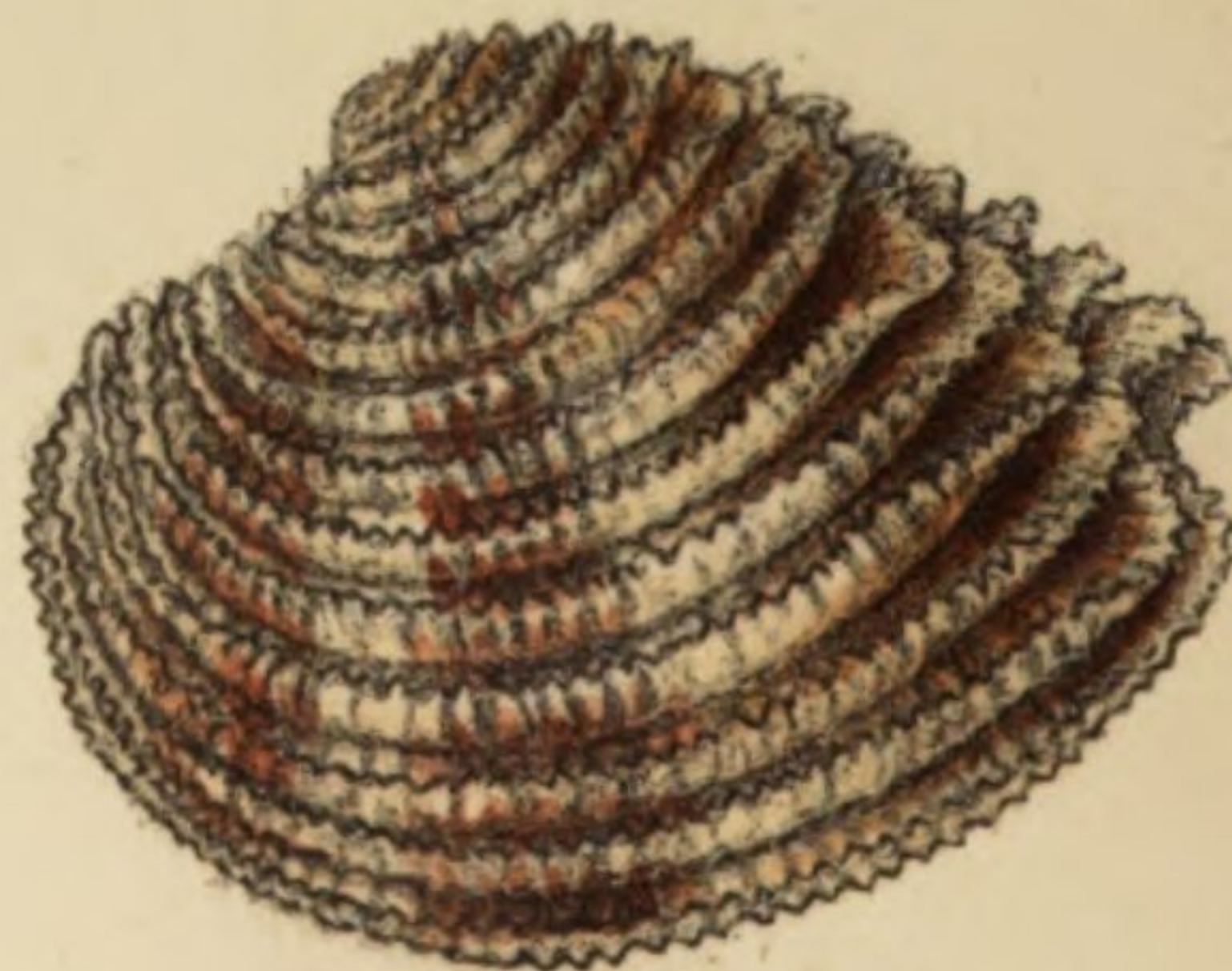
The scales with which the concentric laminæ of this species are so elegantly festooned, are more prickly pointed in the smaller varieties of the species.



38.



39a.



39b.



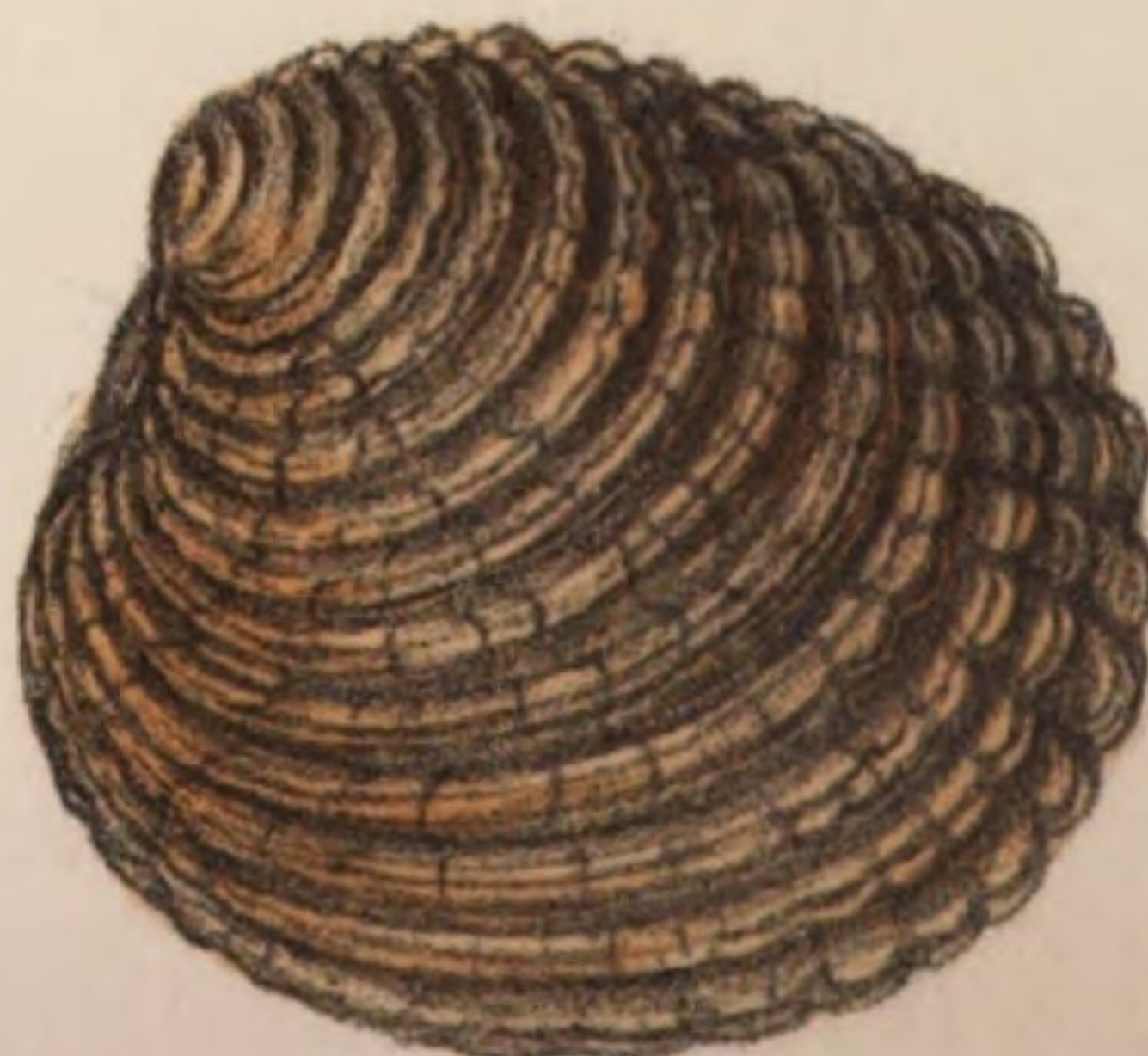
40a.



41.



42.



40b.

VENUS.

PLATE XII.

Species 38. (Mus. Cuming.)

VENUS AFFINIS. *Ven. testâ subtrigono-ovatâ, crassâ, albidâ, rufo-brunneo interruptè radiatâ et maculatâ, concentricè laminato-costatâ, costis conspicuè reflexis, ad latus posticum fornicatis, deinde interruptè sulcatis, areâ ligamenti latâ, planâ, fusco minutè lineari-lentiginosâ.*

THE ALLIED VENUS. Shell somewhat triangularly ovate, thick, whitish, interruptedly blotched and rayed with red-brown, concentrically laminately ribbed, ribs conspicuously reflected, vaulted, then interruptedly grooved on the posterior side, ligamentary area broad, flat, minutely linearly freckled with brown.

SOWERBY, Thes. Conch. part xiv. p. 720. pl. 155. f. 62.
Hab. Senegal.

Allied to *V. paphia*, but of a more oblong form, with somewhat of the colouring of *V. rosalina*.

Species 39. (Fig. a, b, Mus. Cuming.)

VENUS LAMARCKII. *Ven. testâ ovatâ, arcuatè subtrigonâ, albidâ, roseo-fusco maculatâ et strigatâ, concentricè fimbriato-costatâ, fimbriis eleganter plicatis et recurvis, radiatim liratâ, latere postico subattenuato; intus rosaceâ.*

LAMARCK'S VENUS. Shell ovate, arcuately subtriangular, whitish, blotched and streaked with rose-brown, concentrically fimbriately ribbed, frills elegantly puckered and recurved, radiately ridged, posterior side slightly attenuated; tinged with rose within.

GRAY, Sowerby, Thes. Conch. part xiv. p. 707. pl. 153. f. 20, 21.

Venus cancellata, var., Chemnitz.

Hab. China. Wide Bay, East Australia; Strange.

This well-known China species was figured by Chemnitz as a variety of *V. cancellata*, and a figure of it in the 'Encyclopédie Méthodique' was erroneously referred to by Lamarck in illustration of his *V. subrostrata*, which is a West Indian species. The sculpture is most elaborately fretted. In the interior the valves are tinged towards the umboes with rose.

Species 40. (Fig. a, b, Mus. Cuming.)

VENUS VERRUCOSA. *Ven. testâ subcordato-ovatâ, solidiusculâ, fusciscente-albâ, rosaceo-fusco plus minus obscure tinctâ et lineari-undatâ, concentricè costatâ et liratâ, costis lirisque confertis, irregularibus, tuberculato-nodatis, areâ ligamenti plano-excavatâ, vividè fusco strigatâ.*

THE WARTY VENUS. Shell somewhat cordately ovate, rather solid, brownish-white, more or less obscurely stained and linearly waved with rose-brown, concentrically ribbed and ridged, ribs and ridges close-set, irregular, tubercularly noded, ligamentary area flatly excavated, streaked with deep brown.

LINNÆUS, Syst. Nat. 12th edit. p. 1130.

Venus erycina, Pennant.

Pectunculus strigosus, Da Costa.

Venus cancellata, Donovan.

Venus Lemanii, Payraudeau.

Hab. South European and North African seas, including Britain and the Channel Islands.

In this well-known species the concentric ribs and ridges are broken up, more especially on the posterior side, into warty nodules.

Species 41. (Mus. Cuming.)

VENUS KENNERLEYI. *Ven. testâ oblongo-ovali, subquadratâ, sordidè opaco-albâ, concentricè plicato-costatâ, costis confertis, subrecurvis, subirregularibus, lunulâ et areâ ligamenti angustis.*

KENNERLEY'S VENUS. Shell oblong oval, somewhat square, dull opake white, concentrically plicately ribbed, ribs close-set, a little recurved, rather irregular, lunule and ligamentary area narrow.

CARPENTER, MS. in Mus. Cuming.

Hab. — ?

A very characteristic chalk-white shell, strongly plicately concentrically ribbed, the ribs being very crowded and irregular.

Species 42. (Mus. Cuming.)

VENUS CRASSICOSTATA. *Ven. testā subquadrato-ovatā, calcareo-albā, ferrugineo tinctā, radiatim costatā, costis subplanatis, irregularibus, confertis, costis anticis nodoso-crenatis, posticis rudè corrugatis.*

THE THICK-RIBBED VENUS. Shell somewhat squarely ovate, chalk-white, tinged with rust, radiately ribbed, ribs rather flattened, irregular, close-set,

anterior ribs nodosely crenated, posterior rudely wrinkled.

QUOY and GAIMARD, Voy. de l'Astrolabe, Moll. pl. 84. f. 1, 2.

Tapes crassicostata, Sowerby.

Hab. Otago, New Zealand.

An opaque rust-tinged chalk-white shell, having a semi-fossil appearance.



43.



45.



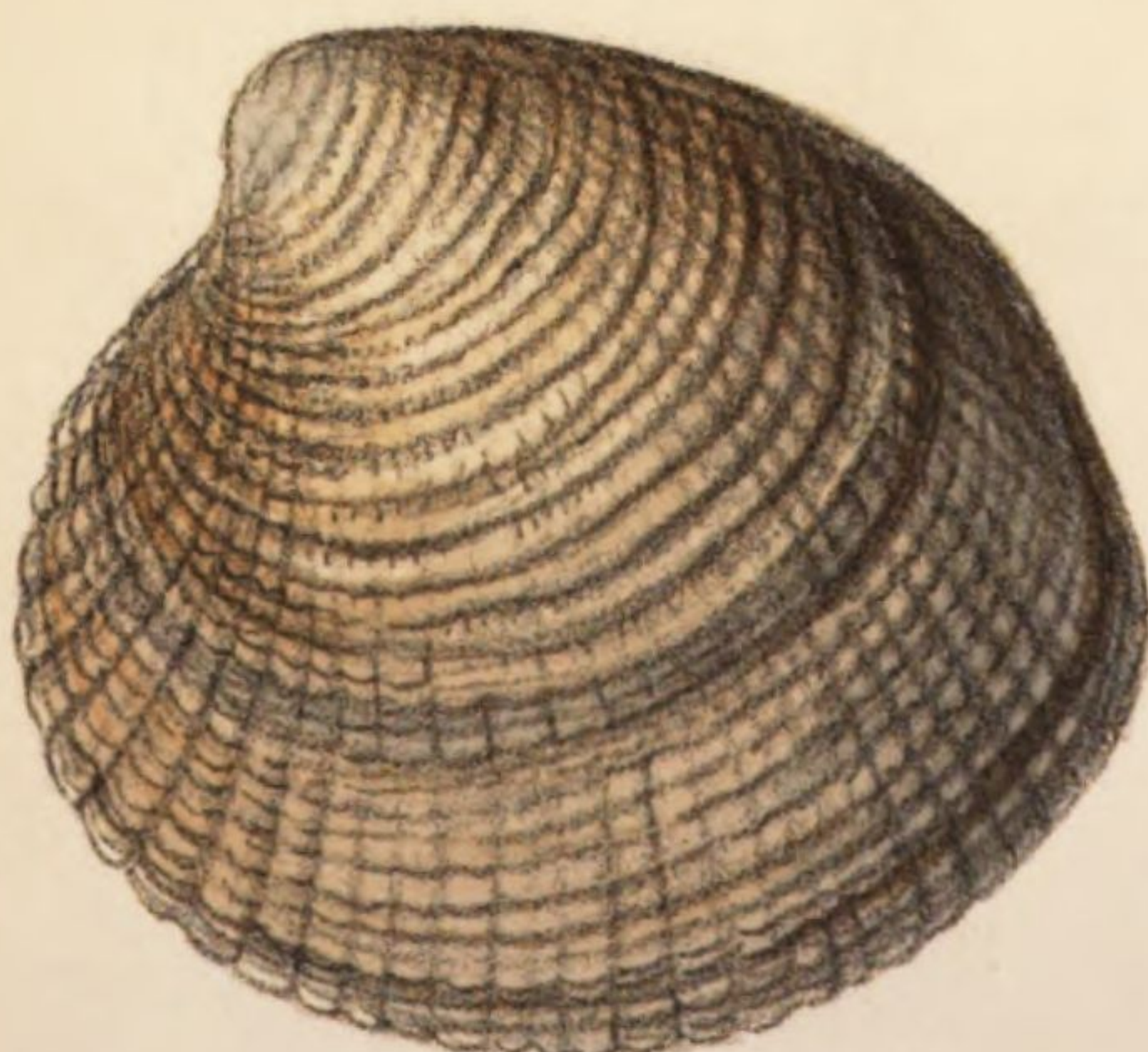
46.



48.



44.



47.



49.

VENUS.

PLATE XIII.

Species 43. (Mus. Cuming.)

VENUS SUGILLATA. *Ven. testā subtrigono-ovatā, fulvescente-griseā, purpureo sparsim undato-lineatā, umbonibus vividè purpureis, liris tenuibus, undique subacutè clathratā, lunulā amplā, areā ligamenti angustā, ambabus intensè castaneis.*

THE BRUISED VENUS. Shell somewhat triangularly ovate, fulvous-grey, sparingly wave-lineated with purple, umboes deep purple, everywhere rather sharply latticed with fine ridges, lunule large, ligamentary area narrow, both dark-chestnut.

Hab. California.

I cannot identify this species with any hitherto described. Its shining purple umboes, finely latticed sculpture, and dark-stained lunule and ligamentary area are quite peculiar.

Species 44. (Mus. Cuming.)

VENUS SIMILLIMA. *Ven. testā subcordato-ovatā, depressiusculā, sordidè fusciscente-albā, concentricè laminato-liratā, liris subconfertis, plicatis, subreflexis, posticè appressis, radiatim tenuiliratis, liris duplicibus.*

THE VERY LIKE VENUS. Shell somewhat cordately ovate, rather depressed, dull brownish-white, concentrically laminately ridged, ridges rather close-set, puckered, a little reflected, posteriorly appressed, radiately finely ridged, ridges duplicate.

SOWERBY, Thes. Conch. part xiv. p. 708. pl. 153. f. 17, 18.

Hab. San Diego, California.

Resembling the beautiful *V. compta* in detail of sculpture, but of a distinct form, without any of its characteristic colouring.

Fig. 45. (Mus. Cuming.)

The shell here represented was drawn as a new species; but it appears to be an unusually gibbous form of *V. casina*, with the concentric sculpture more slenderly laminated and crowded.

Fig. 46. (Mus. Cuming.)

A very distinct variety, from the Gulf of California, of *V. crenulata*, of which a typical specimen of the West Indian form is represented at Plate X. f. 33. In the Californian variety the shell is more globose, and beautifully coloured in the interior with purple-rose.

Species 47. (Mus. Cuming.)

VENUS GIBBOSULA. *Ven. testā pectinato-orbiculari, albidā, violaceo-griseo tinctā et obscurè fasciatā, undique obtusè corrugato-reticulatā, præcipuè ad latus anticum, latere postico radiatim sulcato-striato, lunulā et areā ligamenti subindistinctis.*

THE GIBBOUS VENUS. Shell pectinately orbicular, whitish, stained and obscurely banded with violet-grey, everywhere obtusely wrinkle-reticulated, especially on the anterior side, posterior side radiately groove-striated, lunule and ligamentary area rather indistinct.

DESHAYES, MS. in Mus. Cuming.

Hab. — ?

An interesting, delicately tinted species, of rather solid growth, sculptured with a network of obtuse wrinkled ridges.

Species 48. (Mus. Cuming.)

VENUS COMPTA. *Ven. testā abbreviato-cordatā, subtrigonā, depressā, crassā, sordidè fulvo-albā, rufo-castaneo radiatim lineari-strigatā, concentricè laminato-costatā, costis distantibus, areā ligamenti amplā, acutè excavatā.*

THE NEAT VENUS. Shell shortly cordate, somewhat triangular, depressed, thick, dull fulvous-white, radiately linearly streaked with reddish-chestnut, concentrically laminately ribbed, ribs distant, ligamentary area large, sharply excavated.

BRODERIP, Pro. Zool. Soc. 1838, p. 43.

Hab. Bay of Sechura, Peru (in coarse sand and mud at the depth of seven fathoms); Cuming.

The radiated linear colouring of this species is a characteristic feature.

Species 49. (Mus. Cuming.)

VENUS NUTTALLI. *Ven. testā pectinato-cuneiformi, crassā, albidā, versus umbones ferrugineo tinctā, radiatim nitidè liratā, liris medianis angustis, tenuibus, concentricè liratā, liris laminato-reflexis, versus marginem anticum numerosis, valde irregularibus, lunulā violaceā, areā ligamenti latè plano-excavatā.*

NUTTALL'S VENUS. Shell pectinately wedge-shaped,

thick, whitish, stained towards the umboes with rust, radiately neatly ridged, middle ridges narrow, thin, concentrically ridged, ridges laminately reflected, crowded towards the anterior margin, very irregular, lunule violet, ligamentary area broadly flatly excavated.

CONRAD, Acad. Nat. Sci. Philadelphia, vol. vii. p. 250. pl. 19. f. 15.

Hab. California.

As the neat radiating ridges on approaching the margin become more distinct, the concentric anterior laminar ridges are more crowded.



50.



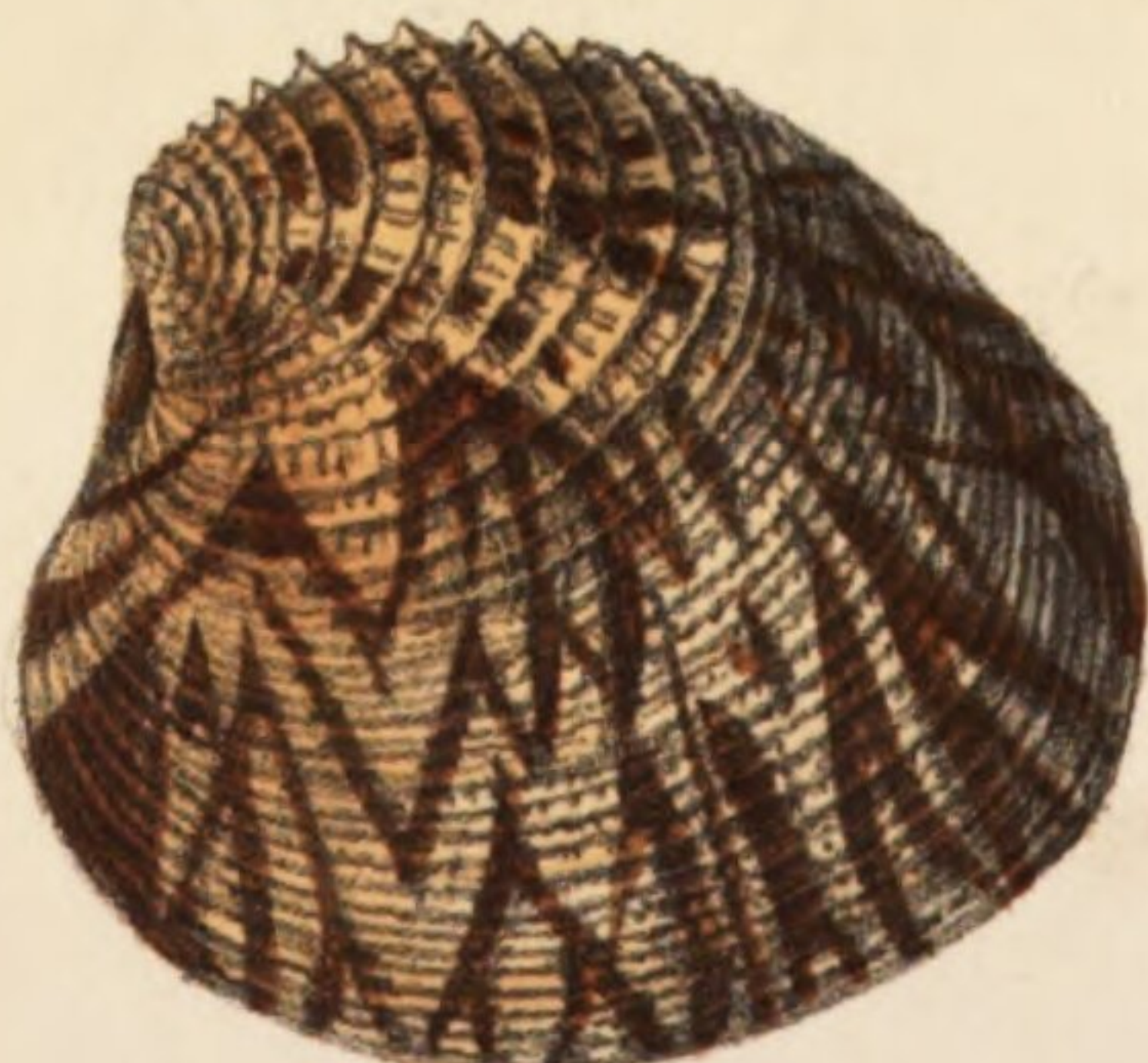
51.



52.



53.



54a.



54b.



55.

VENUS.

PLATE XIV.

Species 50. (Mus. Cuming.)

VENUS EBURNEA. *Ven. testâ suboblongo-ovatâ, eburneâ, ad lunulam pallidè roseo-fuscescente, concentricè corrugato-liratis, liris ad latus anticum irregularibus, interruptis.*

THE IVORY VENUS. Shell somewhat oblong-ovate, ivory-white, pale rose-brown at the lunule, concentrically wrinkle-ridged, ridges on the anterior side irregular, interrupted.

Hab. — ?

A neatly-defined ivory-white species, allied to *V. oblonga*, in which the ridges cease to be concentric on the anterior side, but form irregular interrupted wrinkles.

Species 51. (Mus. Cuming.)

VENUS MUNDULUS. *Ven. testâ subquadrato-ovatâ, tenuiculâ, fulvescente-albâ, violaceo-cinereo interruptè flammâtâ, undique minutè crenato-reticulatâ, lunulâ subindistinctâ, areâ ligamenti angustâ.*

THE TRIM VENUS. Shell somewhat squarely ovate, rather thin, fulvous-white, interruptedly flamed with violet-ash, everywhere minutely crenately reticulated, lunule rather indistinct, ligamentary area narrow.

Hab. — ?

A neatly-sculptured shell of rather light substance, interruptedly flamed throughout with violet-ash.

Species 52. (Mus. Cuming.)

VENUS INTERSECTA. *Ven. testâ pectinato-ovali, tenui, subventricosâ, albidâ, violaceo et pallidè ferrugineo plus minus radiatim tinctâ, liris subtilibus filosis undique reticulatim decussatâ, lunulâ et areâ ligamenti violaceo-fuscis.*

THE INTERSECTED VENUS. Shell pectinately oval, thin, rather ventricose, whitish, more or less radiately tinged with violet and pale-rust, everywhere reticulately decussated with fine thread-like ridges, lunule and ligamentary area violet-brown.

SOWERBY, Pro. Zool. Soc. Thes. Conch. p. 714. pl. 155. f. 59, 60.

Hab. Puerto Puero, Central America ; Cuming.

A delicately-coloured shell of thin substance, very elaborately minutely sculptured throughout.

Species 53. (Mus. Cuming.)

VENUS MONILIFERA. *Ven. testâ quadrato-ovatâ, subcompressâ, fulvescente-albâ, purpureo-fusco profusè undatâ et maculatâ, undique liris acutè reticulatâ, latere postico compressè producto.*

THE NECKLACE VENUS. Shell squarely ovate, rather compressed, fulvous-white, profusely waved and blotched with purple-brown, everywhere sharply reticulated with ridges, posterior side compressly reduced.

SOWERBY, Thes. Conch. part xiv. p. 707. pl. 153. f. 19.

Hab. Island of Mindoro, Philippines ; Cuming.

A characteristic form of *V. reticulata*, in which the shell is compressly squarely produced, with the painting much waved, especially on the posterior side.

Species 54. (Fig. a, b, Mus. Cuming.)

VENUS SUBROSTRATA. *Ven. testâ cordato-subtrigonâ, posticè declivi-truncatâ, crassâ, albâ, fusco reticulato-maculatâ, concentricè fimbriato-liratâ, liris numerosis, brevibus, radiatim costellatâ, costellis versus marginem obsoletis, lunulâ intensè fuscâ, areâ ligamenti acutè excavatâ, fusco strigatâ.*

THE SLIGHTLY-BEAKED VENUS. Shell cordately subtriangular, posteriorly slopingly truncated, thick, white, reticulately blotched with brown, concentrically fimbriately ridged, ridges numerous, short, radiately finely ribbed, ribs soon becoming obsolete towards the margin, lunule dark-brown, ligamentary area sharply excavated, striped with brown.

LAMARCK, Anim. sans vert. vol. vi. p. 343.

Venus neglecta, Sowerby (in Beechey's Voyage, p. 151. pl. 41. f. 8).

Hab. Mazatlan and West Indies.

In consequence of Lamarck having referred for the illustration of this species to a figure in the 'Encyclopédie

Méthodique,' which represents a well-known China species, *V. Lamarckii*, it was lost sight of, until Sowerby named it in the 'Zoology of Beechey's Voyage' *V. neglecta*.

Species 55. (Mus. Cuming.)

VENUS ALBINA. *Ven. testâ suboblongo-ovatâ, albâ, concentricè densè scabroso-striatâ, striis irregularibus, lunulâ fuscâ.*

THE WHITE VENUS. Shell rather oblong-ovate, white, concentrically densely scabrously striated, striæ irregular, lunule dark-brown.

SOWERBY, Thes. Conch. part xiv. p. 732. pl. 161. f. 201.
Hab. China.

A peculiarly soft white shell, in which the concentric sculpture is scarcely more than scabrous striæ.



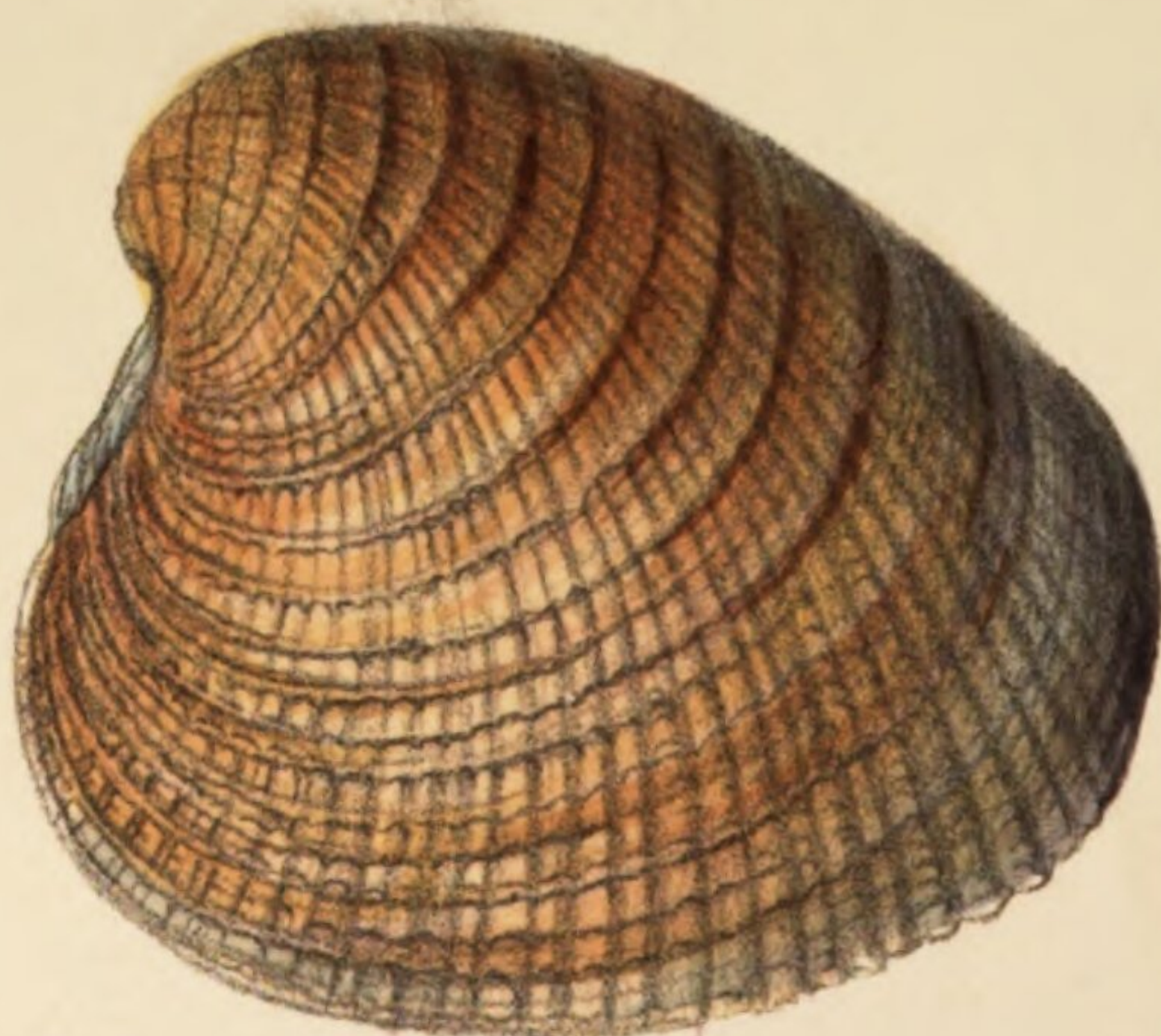
56.



57.



58.



59.



60.



61a.



61b.

VENUS.

PLATE XV.

Species 56. (Mus. Cuming.)

VENUS LYRA. *Ven. testâ orbiculari-ovatâ, subventricosâ, fulvescente-albâ, rufescente-fusco undatâ et maculatâ, concentricè liratâ, liris numerosis, subcallosis, lævibus, subreflexis.*

THE HARP VENUS. Shell orbicularly ovate, rather ventricose, fulvous-white, waved and spotted with red-brown, concentrically ridged, ridges numerous, rather callous, smooth, a little reflected.

HANLEY, Pro. Zool. Soc. 1844, p. 161. Recent Shells, App. 360. pl. 16. f. 21.

Hab. Gulf of Guinea.

I give this species, but doubt exceedingly whether it is not the same as *V. crenulata*. It is an established fact in the geographical distribution of mollusks that West Africa possesses many species common to the West Indies and Mazatlan.

Species 57. (Mus. Cuming.)

VENUS NODOSA. *Ven. testâ globosâ, sordidè albâ aut fulvescente, concentricè costatâ, costis subdistantibus, obtusè tumidis, verrucoso-tuberculatis, lunulâ rufo-fuscâ, areâ ligamenti rufo-fusco latè strigatâ.*

THE NODULED VENUS. Shell globose, dull-white or yellowish, concentrically ribbed, ribs rather distant, obtusely swollen, wart-tubercled, lunule red-brown, ligamentary area broadly striped with red-brown.

DUNKER, Moll. Guin. p. 57.

Venus tuberosa, Deshayes.

Hab. St. Vincent, West Africa.

This apparently characteristic species is probably a strongly warted form of the European *V. verrucosa*.

Species 58. (Mus. Cuming.)

VENUS PILULA. *Ven. testâ orbiculari-ovatâ, tumido-ventricosâ, fulvescente-albâ, carneo-fusco promiscuè tinctâ, concentricè liratâ, liris subobtusis, interstitiis concavis, concentricè elevato-striatis, lunulâ parvâ, areâ ligamenti rufo-fusco strigatâ.*

THE LITTLE-BALL VENUS. Shell orbicularly ovate, tumidly ventricose, fulvous-white, promiscuously stained

with flesh-brown, concentrically ridged, ridges rather obtuse, interstices concave, sculptured with raised striæ, lunule small, ligamentary area striped with red-brown.

Hab. — ?

Closely allied to Dr. Gould's *V. toreuma*, but the concentric ridges are not warted, and the lunule is smaller.

Species 59. (Mus. Cuming.)

VENUS STUTCHBURI. *Ven. testâ obliquè cordatâ, posticè subproductâ, albidâ, ferrugineo-tinctâ posticè, præsertim intus, violaceo tinctâ, radiatim tenuiliratâ, concentricè corrugato-striatâ, lunulâ et areâ ligamenti subindistinctis.*

STUTCHBURY'S VENUS. Shell obliquely cordate, rather produced posteriorly, whitish, tinged with rust, posteriorly tinged with violet, especially within, radiately finely ridged, concentrically corrugately striated, lunule and ligamentary area rather indistinct.

GRAY, Wood, Ind. Test. Supp. pl. 2. f. 4.

Hab. Sandwich Islands.

A shell of solid growth, tinged within on the posterior side with deep violet. It comes very near to the Californian *V. callosa*, Conrad, of which specimens have been found also at the Sandwich Islands.

Species 60. (Mus. Cuming.)

VENUS MUSCARIA. *Ven. testâ pectinato-ovatâ, subcompressâ, fulvescente, cinereo-violaceo radiatim aspersâ, radiatim crebriliratâ, concentricè, densè crenato-liratâ, lunulâ subindistinctâ.*

THE FLY-DOTTED VENUS. Shell pectinately ovate, rather compressed, fulvous, radiately sprinkled with ash-violet, closely radiately ridged, concentrically densely crenately ridged, lunule rather indistinct.

Hab. — ?

An extremely interesting species, most elaborately sculptured throughout.

June, 1863.

Species 61. (Fig. a, b; Mus. Cuming.)

VENUS COLUMBIENSIS. *Ven. testâ pectinato-ovatâ, fulvescente, cinereo-griseo radiatim aspersâ et maculatâ, interdum plus minus cinereo-fuscâ, radiatim costatâ, costis obtusè planatis, interstitiis subprofundè incisis, costis anticis corrugato-crenatis.*

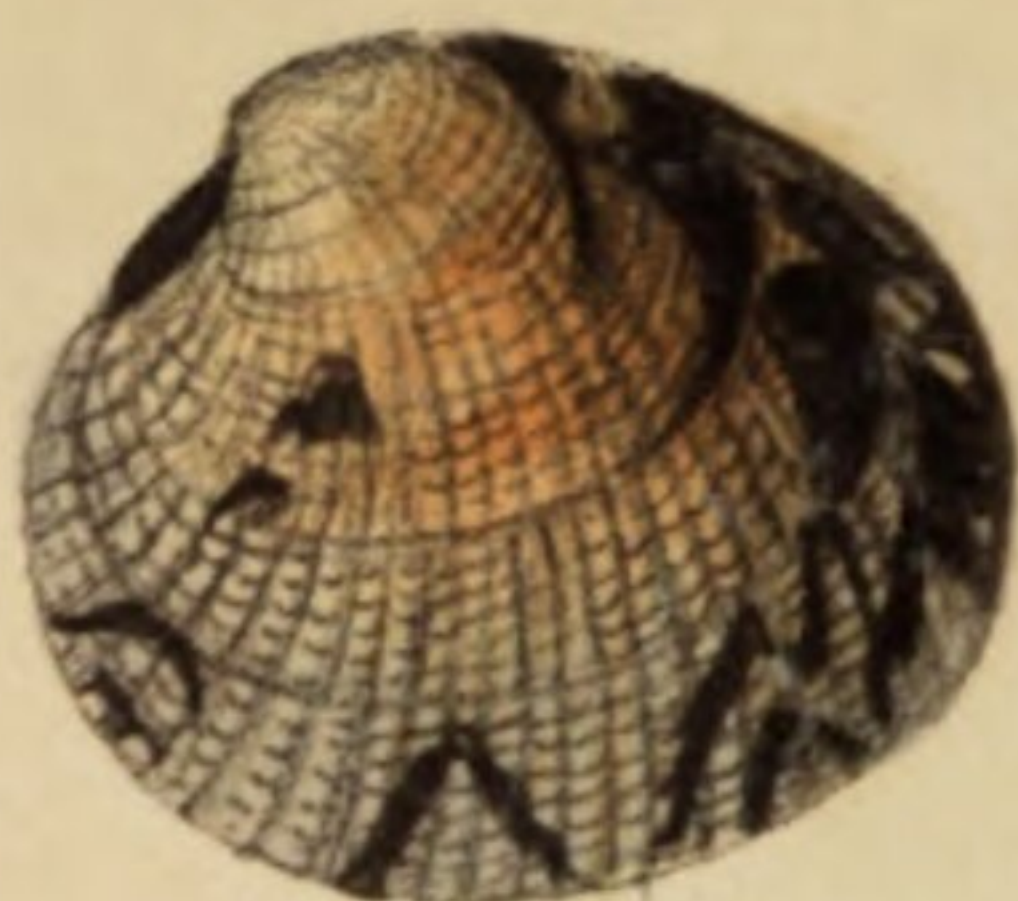
THE COLUMBIAN VENUS. Shell pectinately ovate, fulvous, radiately sprinkled and blotched with ash-grey,

sometimes more or less with ash-brown, radiately ribbed, ribs obtusely flattened, interstices rather deeply cut, anterior ribs corrugately crenated.

SOWERBY, Pro. Zool. Soc. 1835, p. 21.

Hab. St. Elena, West Columbia.

This very elegant species varies considerably in its pattern of colouring, but little in form and sculpture.



62.



64a.



63.



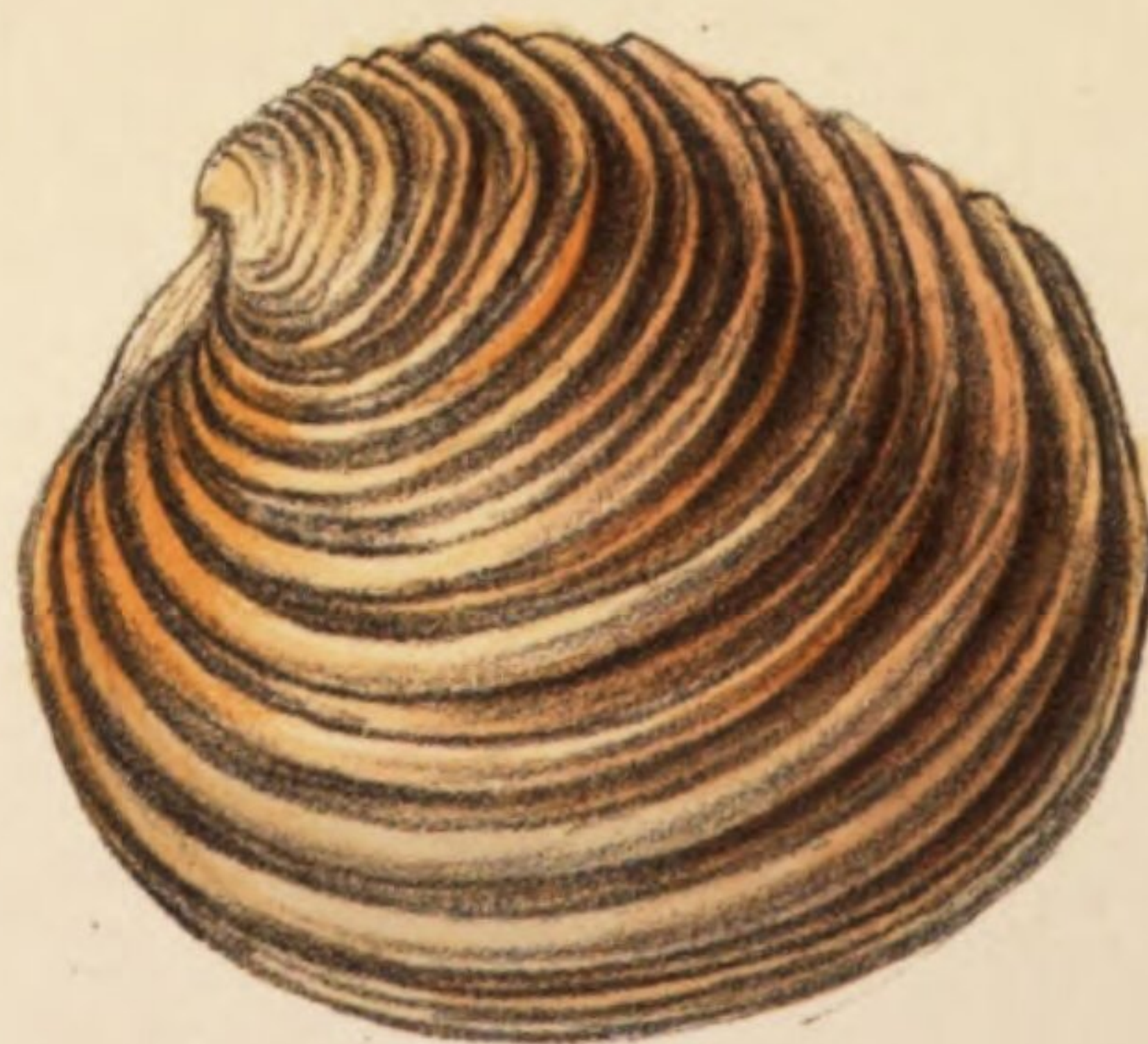
64b.



65.



66.



67.



68.



69.



70.

VENUS.

PLATE XVI.

Species 62. (Mus. Cuming.)

VENUS GRANULATA. *Ven. testâ pectinato-ovatâ, solidiusculâ, albâ, ferrugineo tinctâ, nigricante-cinereo versus marginem reticulato-pictâ, radiatim costatâ, costis obtusè planatis, posticè angulatis, liris nodulosis concentricis decussatis.*

THE GRANULATED VENUS. Shell pectinately ovate, rather solid, whitish, rust-tinged, reticulately painted towards the margin with dark ash, radiately ribbed, ribs obtusely flattened, posteriorly angled, decussated with concentric nodulous ridges.

GMELIN, Syst. Nat. p. 3277.

Venus entobapta, Jonas.

Hab. West Indies.

A substantially-grained shell, boldly patched here and there with dark colour.

Species 63. (Mus. Cuming.)

VENUS LACUNATUS. *Ven. testâ subtrigono-ovatâ, fulvescente, roseo tinctâ, rufo-fusco obscure radiatâ, concentricè laminato-liratâ, liris erectis, extus lacunatis, areâ ligamenti rufo-fusco maculatâ.*

THE FRETTED VENUS. Shell somewhat triangularly ovate, fulvous, tinged with rose, obscurely rayed with red-brown, concentrically laminately ridged, ridges erect, supported outwardly by fretwork, ligamentary area blotched with red-brown.

Hab. — ?

Of a delicate fulvous-brown colour, tinged with rose, most elaborately fretted throughout with punctured lamellæ.

Species 64. (Fig. a, b, Mus. Cuming.)

VENUS TOREUMA. *Ven. testâ pectinato-orbiculari, gibbosiunculâ, albidâ, rufo-castaneo radiatim trigono-maculatâ, concentricè lirâtâ et striatâ, interstitiis regulariter concavis, striis elevatis, lateribus verrucoso-corrugatis.*

THE EMBOSSED VENUS. Shell pectinately orbicular, rather gibbous, white, radiately triangularly blotched with reddish-chestnut, concentrically ridged and

striated, interstices regularly concave, with the striae raised, sides wart-wrinkled.

GOULD, Otia Conch. p. 84.

Venus crebrisulca, Sowerby (not of Lamarck).

Venus Jukesii, Deshayes.

Hab. Mangsi Island; Gould.

A prettily-painted globose shell, in the concentric ridges are wrinkled into warts towards the sides, and ventral margin.

Species 65. (Mus. Cuming.)

VENUS PLUMBEA. *Ven. testâ ovatâ, valde inæquilaterali, sordidè fulvâ, plumbeo-violaceo radiatâ et tinctâ, radiatim costatâ, anticis latiusculis, posticis angustis, obtusè angulatis, omnibus liris concentricis undique crenatis, lunulâ et areâ ligamenti latiusculis.*

THE LEADEN VENUS. Shell ovate, very inequilateral, dull fulvous, rayed and stained with leaden-violet, radiately ribbed, anterior ribs rather broad, posterior narrow, obtusely angled, all crenated throughout with concentric ridges, lunale and ligamentary area rather broad.

Hab. St. John's, West Indies.

This shell was labelled in Mr. Cuming's collection as a variety of *V. tessellata*, but it is of a different form, less oblong, with a larger lunule, and broader, more excavated, ligamentary area.

Species 66. (Mus. Cuming.)

VENUS TESSELLATA. *Ven. testâ oblongo-ovatâ, fulvâ, plumbeo-violaceo radiatâ et tinctâ, radiatim densè calloso-liratâ, postice costatâ, costis planis, obtusè angulatis, lunulâ et areâ ligamenti angustis.*

THE TESSELLATED VENUS. Shell oblong-ovate, fulvous, rayed and stained with leaden-violet, radiately densely callously ridged, ribbed posteriorly, ribs flat, obtusely angled, lunule and ligamentary area narrow.

ADAMS and REEVE, Moll. Voy. Samarang, p. 79. pl. 22. f. 11.

Tapes tessellata, Sowerby.

Hab. Philippine Islands; Cuming.

June, 1863.

Of a characteristic oblong form, with a very short anterior side.

Species 67. (Mus. Cuming.)

VENUS CASINA. *Ven. testâ lenticulari, fulvâ, ferrugineo-fusco tinctâ, concentricè laminato-costatâ, costis rudibus, subirregularibus, laminâ parvâ interveniente.*

THE CASINA VENUS. Shell lens-shaped, fulvous, tinged with rust-brown, concentrically laminately ribbed, ribs rude, rather irregular, with a small lamina in the interstices.

LINNÆUS, Syst. Nat. p. 1130.

Venus reflexa, Montagu.

Venus lactea, Donovan.

Venus discina, Lamarck.

Venus Rusterucii, Payraudeau.

Venus intermedia, Gray.

Venus casinula, Deshayes.

Hab. European Seas.

This well-known species appears to have been named after a town in Campania, on the shores of the Mediterranean.

Species 68. (Mus. Cuming.)

VENUS UNDATELLA. *Ven. testâ ovatâ, subcompressâ, cærulescente-albâ, violaceo-fusco lineari-undatâ et maculatâ, radiatim regulariter liratâ, liris versus marginem obsoletis, concentricè liratâ, liris versus marginem undatis, confertis et validioribus, areâ ligamenti sublatè excavatâ, conspicuè strigatâ.*

THE WAVED VENUS. Shell ovate, rather compressed, bluish-white, lineally waved and blotched with violet-brown, radiately regularly ridged, ridges obsolete towards the margin, concentrically ridged, ridges waved, close-set and stronger towards the margin, ligamentary area rather broadly excavated, conspicuously striped.

SOWERBY, Pro. Zool. Soc. 1835. p. 22.

Hab. Gulf of California.

A rather pale-marked species, with the sculpture much changing in its development towards the margin.

Species 69. (Mus. Cuming.)

VENUS FUSCO-LINEATA. *Ven. testâ oblongo-ovatâ, subquadratâ, albidâ, lineis nigricante-violaceis undatis pictâ, radiatim costatâ, costis obtusè planatis, posticè angulatis, anticis subacutè crenatis.*

THE BROWN-LINED VENUS. Shell oblong-ovate, somewhat square, whitish, painted with dark-violet waved lines, radiately ribbed, ribs obtusely flattened, angled posteriorly, anterior ribs rather sharply crenated.

SOWERBY, Pro. Zool. Soc. 1835. p. 41.

Tapes fusco-lineata, Sowerby, jun.

Hab. Guacomayo, Central America (in sandy mud, at the depth of thirteen fathoms); Cuming.

Crossed throughout with elegantly-defined pencillings of dark violet.

Species 70. (Mus. Cuming.)

VENUS HISTRIONICA. *Ven. testâ subquadrato-ovatâ, compressiusculâ, albâ, cinereo-fusco conspicuè maculatâ, undique nitidè crenato-reticulatâ, lunulâ intensè fuscâ.*

THE PATCHED VENUS. Shell somewhat squarely ovate, rather depressed, white, conspicuously blotched with ash-brown, neatly crenately reticulated throughout, lunule dark-brown.

SOWERBY, Pro. Zool. Soc. 1835. p. 41.

Hab. Guacomayo, Central America (in sandy mud, at the depth of thirteen fathoms); Cuming.

Very closely allied to *V. granulata*, though more compressed and delicately sculptured.



72.



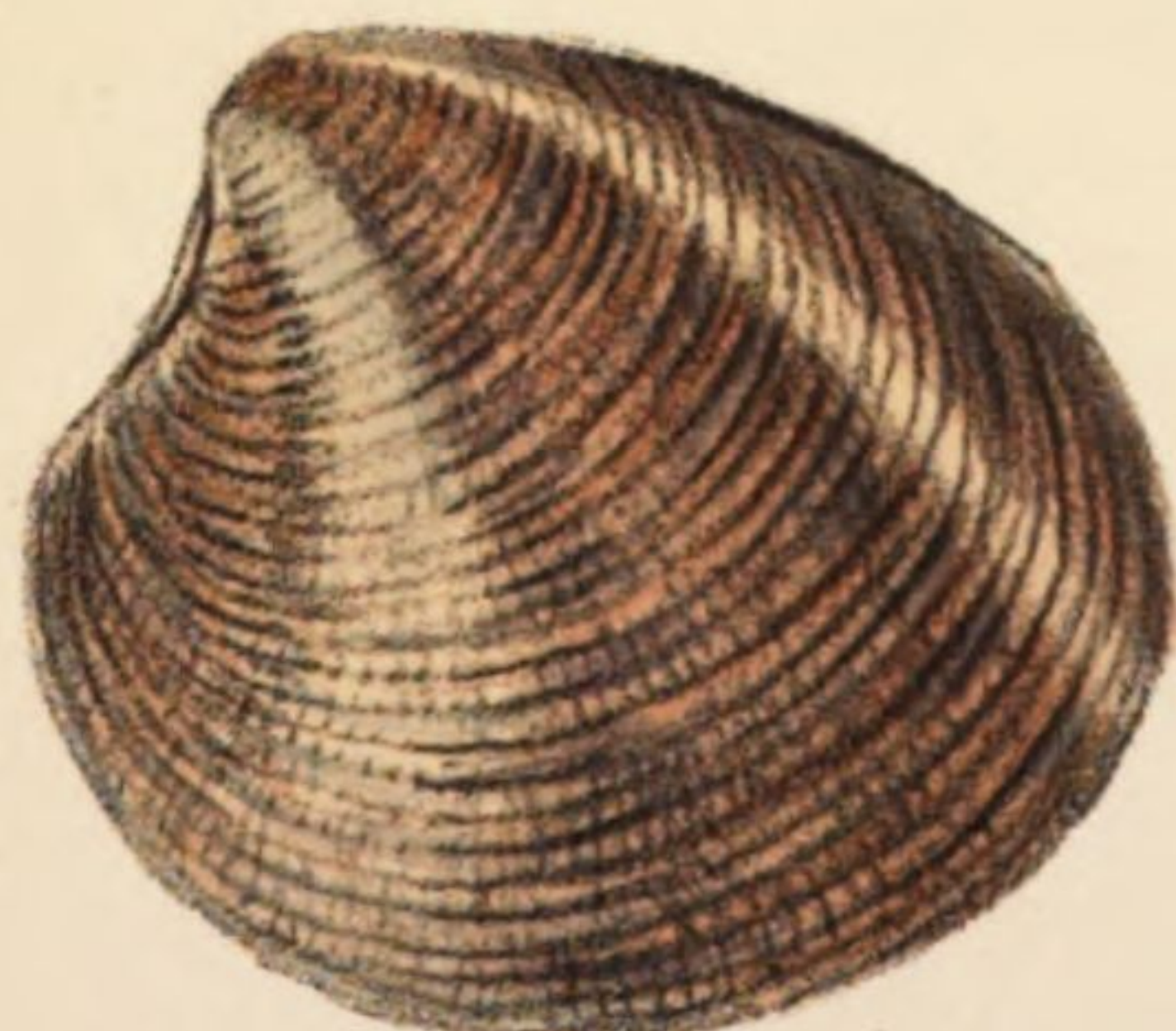
71.



73.



74.



75.



76.



77.

VENUS.

PLATE XVII.

Species 71. (Mus. Cuming.)

VENUS MACTRACEA. *Ven. testâ ovatâ, calcareo-albâ, concentricè liratâ et striatâ, liris striisque valde irregularibus, lunulâ excavato-elongatâ.*

THE MACTRA-LIKE VENUS. Shell ovate, chalk-white, concentrically ridged and striated, ridges and striæ very irregular, lunule excavately lengthened.

BRODERIP, Pro. Zool. Soc. 1835, p. 44.

Hab. Valparaiso (from sandy mud at a depth of twenty fathoms); Cuming.

An opaque chalk-white species, with very much the appearance of a tertiary fossil.

Species 72. (Mus. Cuming.)

VENUS DISCREPANS. *Ven. testâ subpectinato-ovatâ, fulvescente-albâ, concentricè costatâ, costis tumidis, rotundatis, confertiusculis, subtus crispato-crenulatis, ferrugineo-fusco punctatis, areâ ligamenti latâ.*

THE DIFFERING VENUS. Shell subpectinately ovate, fulvous-white, concentrically ribbed, ribs swollen, rounded, rather close-set, crispately crenulated beneath, dotted with rust-brown, ligamentary area broad.

SOWERBY, Pro. Zool. Soc. 1835, p. 22.

Hab. Islay, Peru; Cuming.

Very like *V. Peruviana*, with the posterior foliations of the concentric ribs decorticated.

Species 73. (Mus. Cuming.)

VENUS APHRODINOIDES. *Ven. testâ obliquè cuneiformi, plano-compressâ, fulvescente-albâ, griseo-punctatâ, undique concentricè validè liratâ, liris acutis, interstitiis profundè excavatis, latere antico brevissimo, postico elongato producto.*

THE APHRODINE-LIKE VENUS. Shell obliquely wedge-shaped, flatly compressed, fulvous-white, dotted with grey, concentrically strongly ridged throughout, ridges sharp, interstices deeply excavated, anterior side very short, posterior elongately produced.

Hab. St. Vincent's Gulf, South Australia; Angas.

More inequilateral than *V. Aphrodina* or *Peronii*, all of which are very closely allied, with the umboes more sharply angular, and, above all, with the ridges, as Lamarck describes them, more eminent.

Species 74. (Mus. Cuming.)

VENUS ÆGROTA. *Ven. testâ subquadrato-ovatâ, ventricosâ, tenuiculâ, albidâ, pallidè rufescente-fusco sparsim flammâtâ, undique densè irregulariter reticulatâ.*

THE SICKLY VENUS. Shell somewhat squarely ovate, ventricose, rather thin, whitish, sparingly flamed with pale red-brown, densely irregularly reticulated throughout.

Hab. Singapore; Cuming.

This appears to me to differ from any variety of *V. reticulata*, and it has no indication of the red colouring so characteristic of the internal hinge margin of that species.

Species 75. (Mus. Cuming.)

VENUS STRIATULA. *Ven. testâ pectinato-orbiculari, albidâ, cinereo-griseo lineari-punctatâ et radiatâ, concentricè liratâ, liris nunc acutis nunc obtusis, subreflexis, interdum undato-corrugatis, confertis.*

THE FINELY-STRIATED VENUS. Shell pectinately orbicular, whitish, linearly dotted and rayed with ash-grey, concentrically ridged, ridges now sharp now obtuse, a little reflected, sometimes wave-wrinkled, close-set.

Pectunculus striatulus, Da Costa, Brit. Conch. p. 191. pl. 12. f. 2.

Venus striatula, Donovan.

Venus gallina, Maton and Rackett.

Venus Pennantii, Forbes.

Venus laminosa, Turton.

Venus rugosa, Pennant.

Venus Prideauxii, Couch.

Venus sulcata and *costata*, Brown.

Hab. European Seas.

The large specimen here figured is the Mediterranean

form of the species. For British examples as originally described by Da Costa, see Plate XX.

Species 76. (Mus. Cuming.)

VENUS APHRODINA. *Ven. testā obliquè cuneatā, fulvo-ferrugineā, pallidè fusco obscure reticulatā, sublævigatā, posticè concentricè corrugato-sulcatā.*

THE APHRODINE VENUS. Shell obliquely wedge-shaped, fulvous-rust, obscurely reticulated with pale-brown, nearly smooth, concentrically wrinkle-grooved down the posterior side.

LAMARCK, *Anim. sans vert.* vol. vi. p. 368.

Hab. Australia.

A comparatively smooth species, concentric grooves being scarcely distinguishable except on the posterior side.

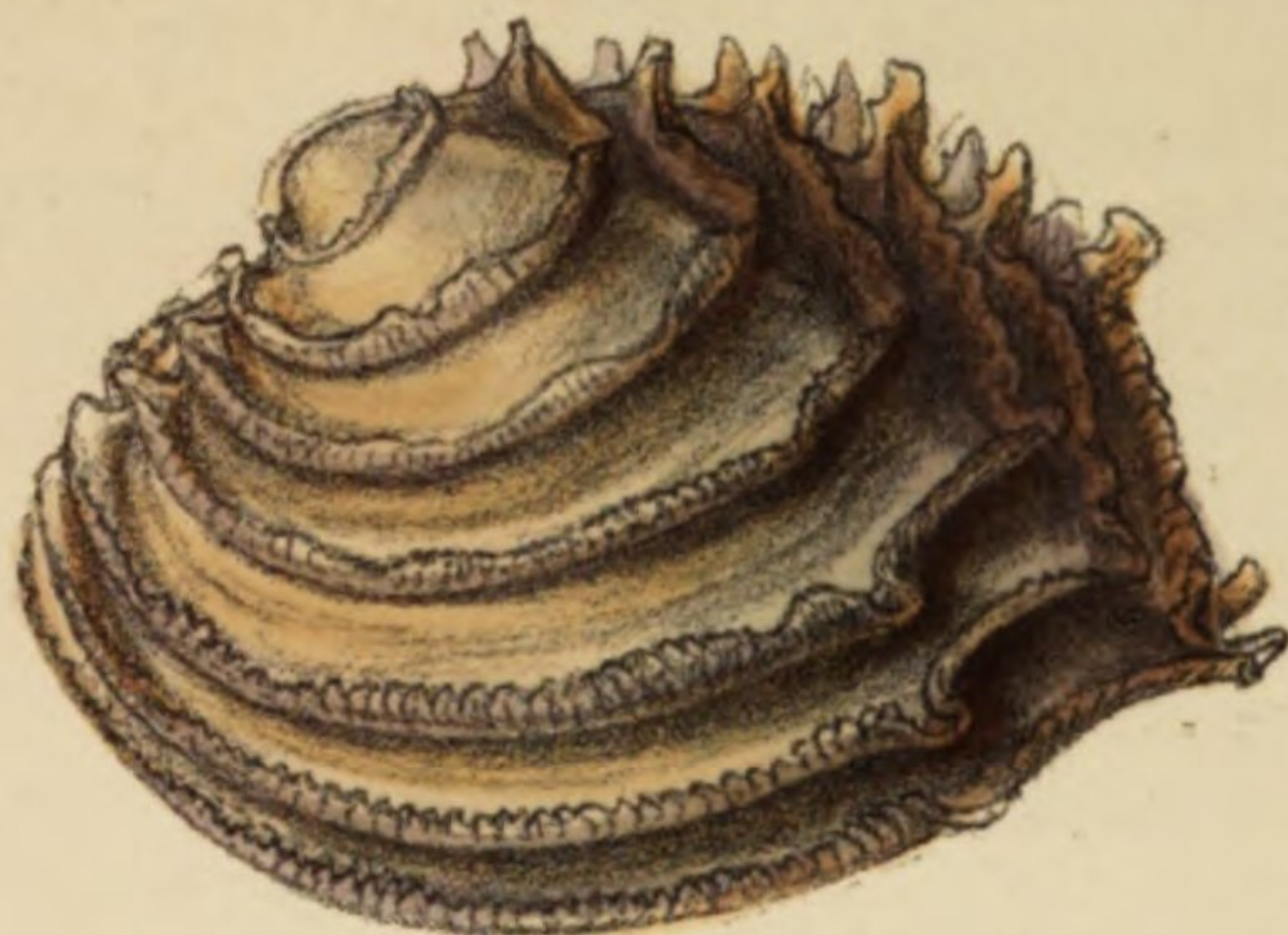
Species 77. (Mus. Cuming.)

VENUS ADAMSII. *Ven. testā quadrato-oblongā, tenuiculā, compressā, sordidè albā, ferrugineo tinctā, concentricè laminato-liratā, liris eximiè fimbriatis, interstitiis liris tenuibus numerosis radiantibus pulcherrimè clathratis.*

ADAMS' VENUS. Shell squarely oblong, rather thin, compressed, dead-white, tinged with rust, concentrically laminately ridged, ridges delicately fimbriated, interstices beautifully latticed with numerous fine radiating ridges.

Hab. Japan.

A shell of singularly elliptic form, thin and depressed, most elaborately and delicately sculptured throughout.



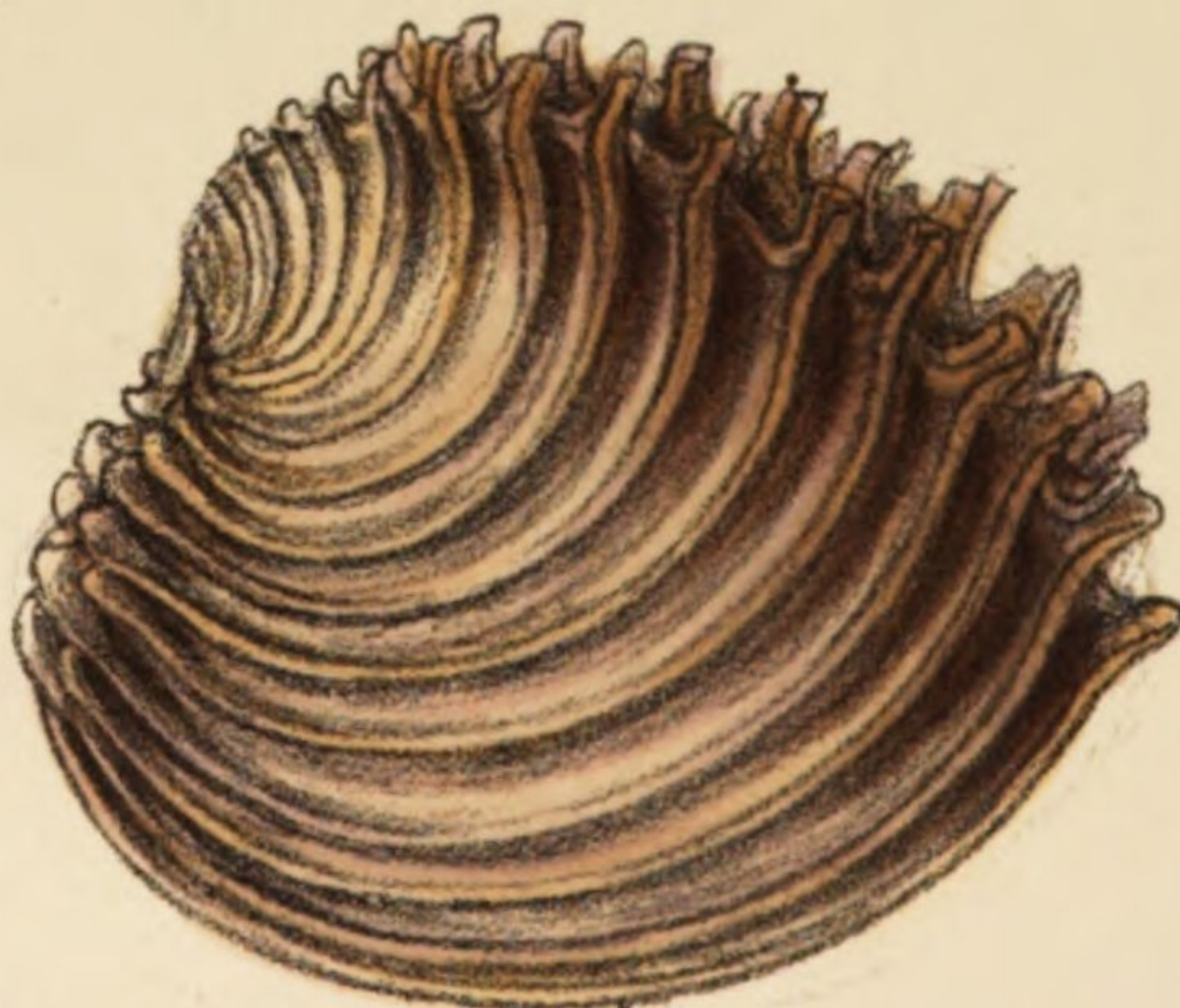
78.



79.



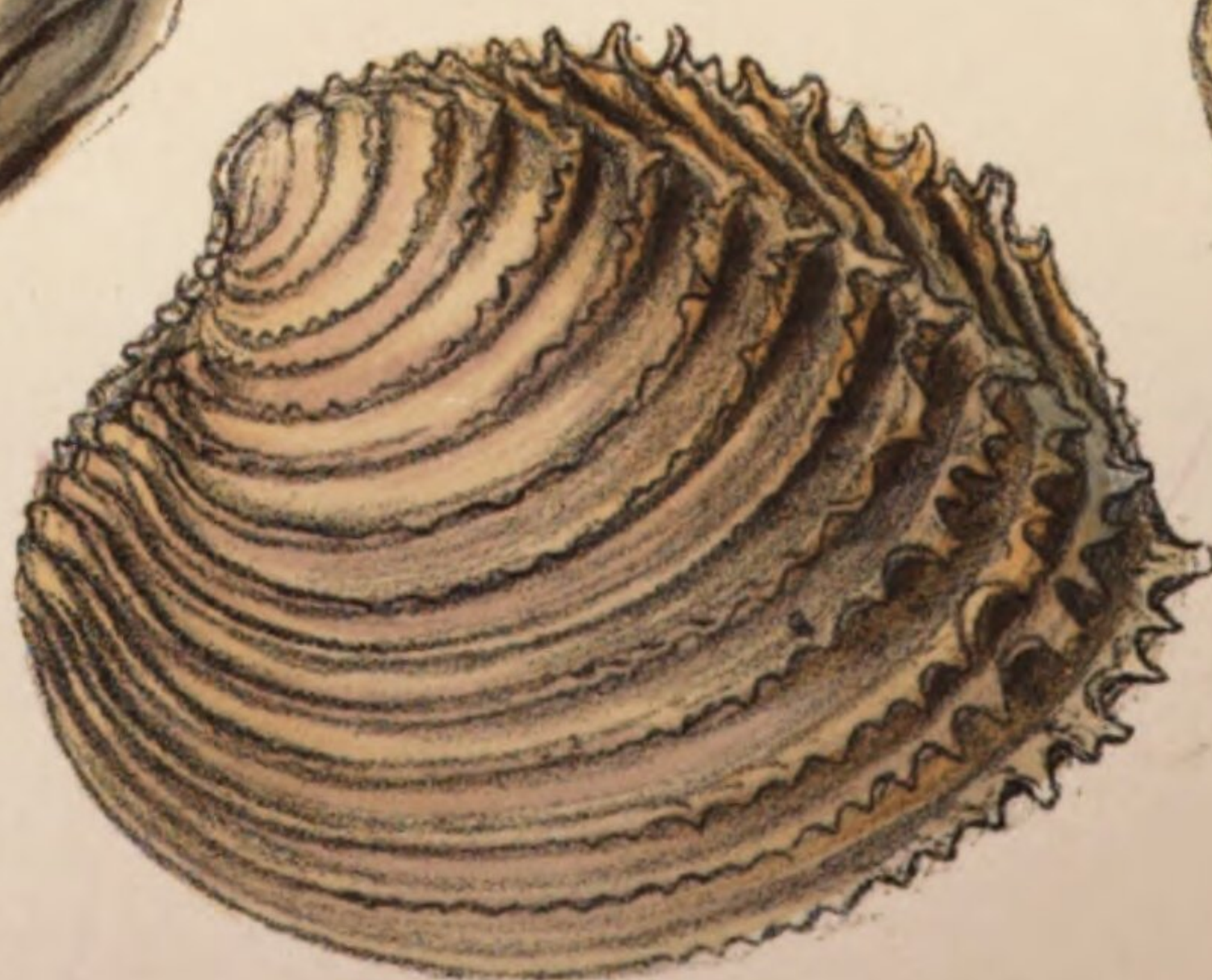
80.



81.



82.



84.



83.

VENUS.

PLATE XVIII.

Species 78. (Mus. Cuming.)

VENUS LAMELLATA. *Ven. testā oblongo-ovatā, posticè obliquè trigonā, fulvescente-albā, roseo tinctā, concentricè lamellatā, lamellis distantibus, crispato-striatis et reflexis, ad angulum posticum fimbriatis et lacunatis, interstitiis lævibus.*

THE LAMELLATED VENUS. Shell oblong-ovate, posteriorly obliquely triangular, fulvous-white, tinged with rose, concentrically lamellated, lamellæ distant, crispately striated and reflected, frilled and spouted at the posterior angle, interstices smooth.

LAMARCK, Anim. sans vert. vol. 6. p. 349.

Hab. Tasmania; R. C. Gunn.

The spouted foliations of the concentric lamellæ are quite remarkable in this very beautiful species.

Species 79. (Mus. Cuming.)

VENUS PERUVIANA. *Ven. testā subangustè ovatā, calcareo-albā, concentricè costatā, costis tumidis, reflexis, ferrugineo-tinctis, posticè laminato-appressis.*

THE PERUVIAN VENUS. Shell rather narrowly ovate, chalk-white, concentrically ribbed, ribs swollen, reflected, rust-dotted, posteriorly laminately appressed.

SOWERBY, Pro. Zool. Soc. 1835. p. 22.

Hab. Ancon, Peru; Cuming.

In this species the concentric laminæ, instead of being erectly spouted, are appressed.

Species 80. (Mus. Cuming.)

VENUS ORNATISSIMA. *Ven. testā pectinato-globosā, tenuiculā, sordidè albā, radiatim crebricostatā, costis regularibus, versus marginem duplicibus, concentricè laminato-fimbriatā, fimbriā erectā.*

THE HIGHLY-ADORNED VENUS. Shell pectinately globose, rather thin, dead-white, radiately closely ribbed, ribs regular, duplicate towards the margin, concentrically laminately frilled, frill erect.

BRODERIP, Pro. Zool. Soc. 1835, p. 44.

Hab. Panama (dredged from sandy mud, at a depth of ten fathoms); Cuming.

This elegantly-frilled shell, described nearly thirty years ago, is still unique.

Species 81. (Mus. Cuming.)

VENUS PPLICATA. *Ven. testā pectinato-subtrigonā, planiusculā, concentricè plicato-laminatā, laminis erectis, supernè subreflexis, posticè bifariam fimbriatis et lacunatis, interstitiis lævibus.*

THE PLAITED VENUS. Shell pectinately subtriangular, rather flat, concentrically plicately laminated, laminæ erect, a little reflected at the top, posteriorly double-frilled and spouted, interstices smooth.

GMELIN, Syst. Nat. p. 1130.

Hab. West Africa.

Some authors have assigned this well-known species to the *V. dysera* of Linnæus, but so much uncertainty prevails as to which species Linnæus intended to denote by *V. dysera*, that the name has been expunged from the series altogether, first by Lamarck, and notably so by Deshayes.

Species 82. (Mus. Cuming.)

VENUS KELLETTII. *Ven. testā subangustè pectinato-ovatā, calcareo-albā, ferrugineo-fusco tinctā et radiatā, concentricè lineari-sulcatā, sulcis distantibus, prope umboes subtiliter radiatim liratis, areis intermediis lævibus, lateribus laminato-ulatis.*

KELLETT'S VENUS. Shell rather narrowly pectinately ovate, chalk-white, stained and rayed with rust-brown, concentrically linearly grooved, grooves distant, near the umboes finely radiately ridged, intermediate spaces smooth, sides laminately winged.

HINDS, Moll. Voy. Sulphur, p. 65, pl. 19. f. 5.

Hab. West coast of Veragua, Central America.

Distinguished by foliations on either side, without any intervening lamellæ.

Species 83. (Mus. Cuming.)

VENUS ALATUS. *Ven. testā subtrigono-ovatā, fulvescente-albā, spadiceo-fuscescente radiatā, umbonibus carneo-*

tinctis, lævigatâ vel subirregulariter striatâ, ad latus anticum laminato-alatâ.

THE WINGED VENUS. Shell somewhat triangularly ovate, fulvous-white, rayed with light fawn-brown, umboes flesh-tinted, smooth or somewhat irregularly striated, laminately winged on the anterior side.

Hab. Swan River.

A new form of the genus, entirely destitute of lamellæ, with foliations, few in number, on the anterior side only.

Species 84. (Mus. Cuming.)

VENUS YATESII. *Ven. testâ subtrigono-oblongâ, fulves-*

cente-croceâ, lævigatâ, concentricè lamellatâ, lamellis brevibus, subdistantibus, irregularibus, posticè muricato-fimbriatis.

YATES'S VENUS. Shell somewhat triangularly oblong, fulvous saffron-colour, smooth, concentrically lamellated, lamellæ short, rather distant, irregular, posteriorly prickly-frilled.

GRAY, Yates' New Zealand, Appendix.

Hab. New Zealand.

The lamellæ are here comparatively short, but curiously prickly spouted on the posterior side.



85a.



85b.



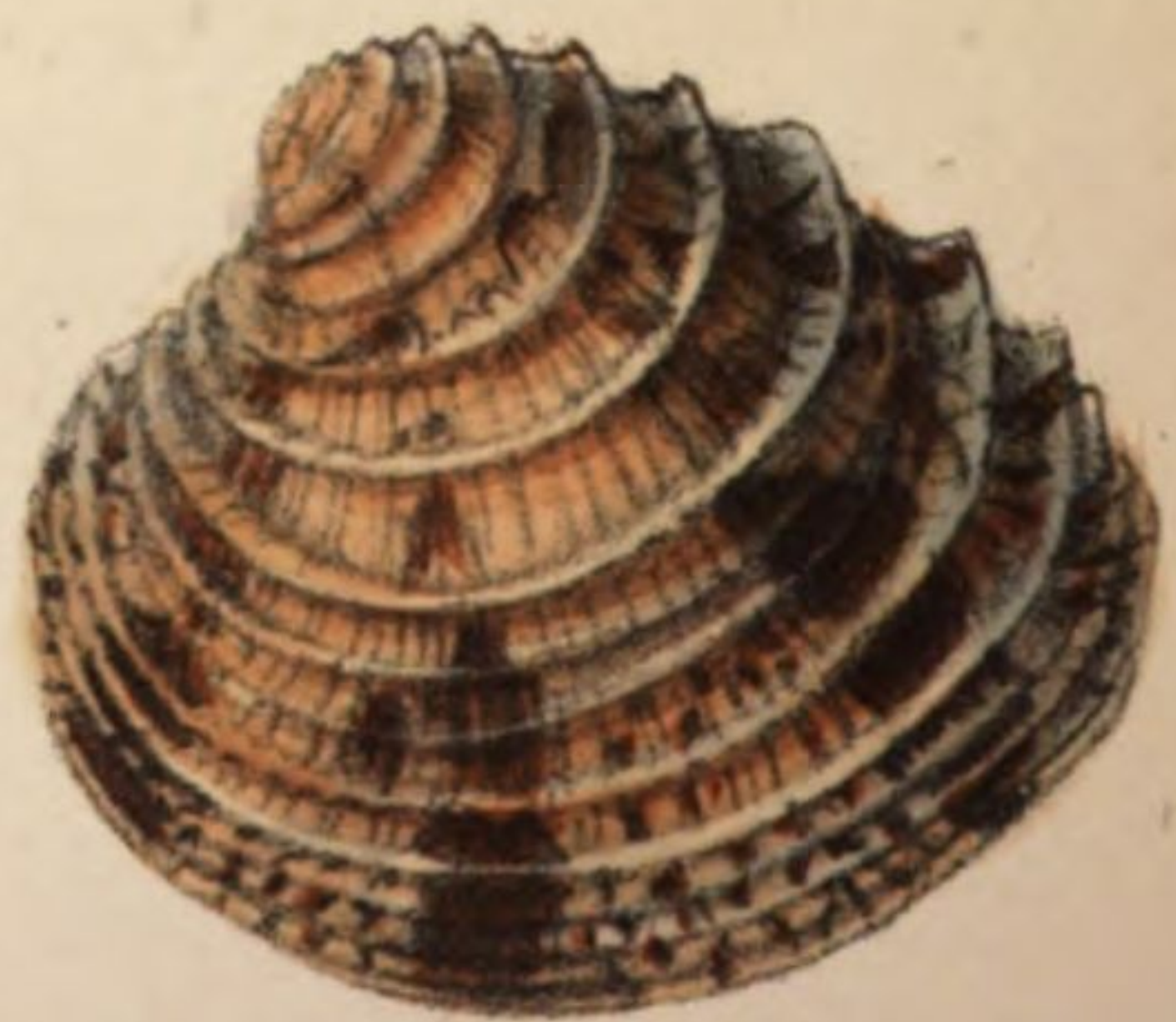
85c.



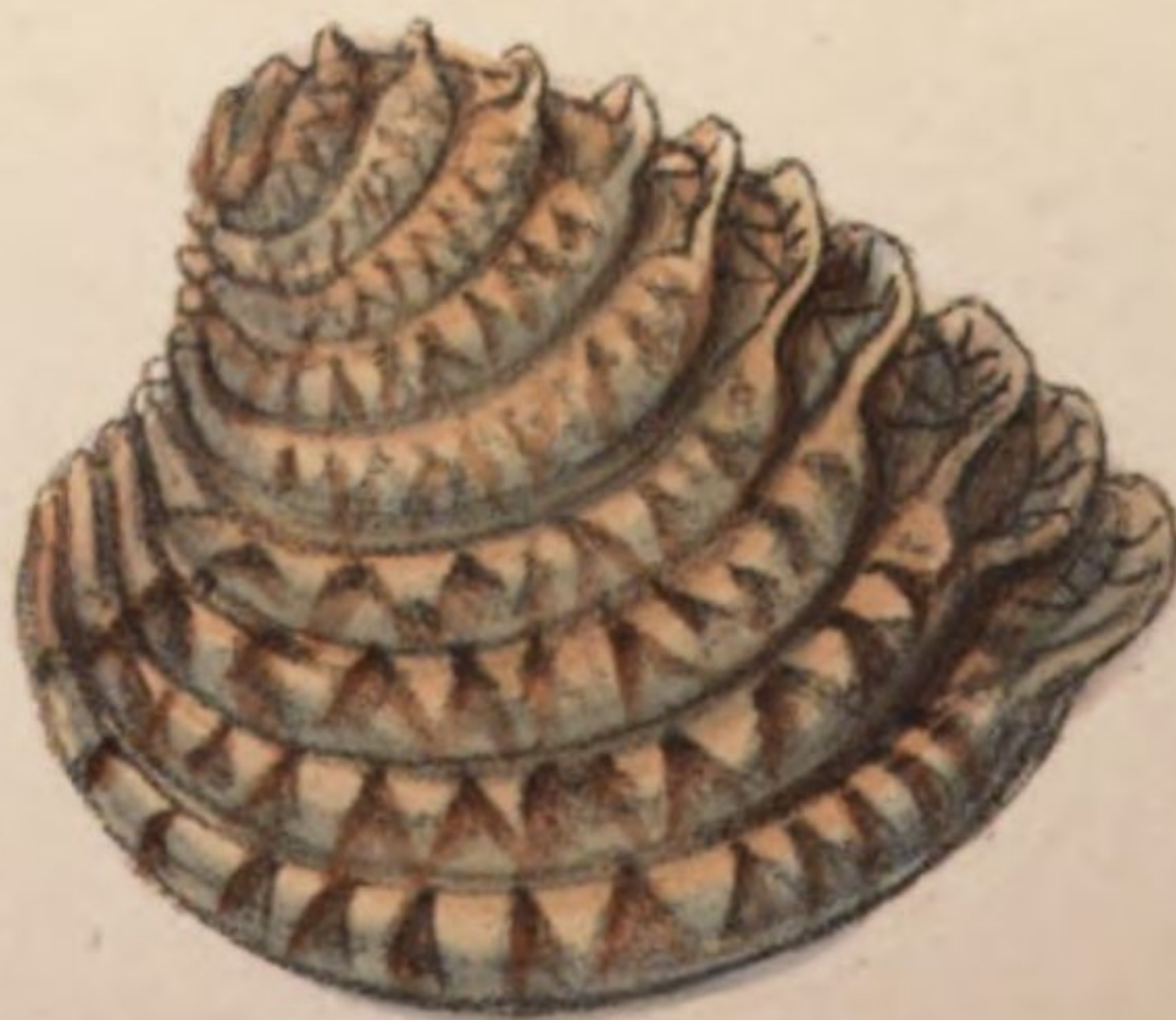
86.



87.



88.



89.

VENUS.

PLATE XIX.

Species 85. (Fig. *a, b, c*, Mus. Cuming.)

VENUS SUBIMBRICATA. *Ven. testâ pectinato-ovatâ, crassâ, albâ, rufo-fusco copiosè radiatim maculatâ et punctatâ, concentricè costatâ, costis latis, obtusè tumidis, radiatim liratis, liris regularibus, interdum duplicibus, lunulâ et areâ ligamenti latè excavatis.*

THE IMBRICATED VENUS. Shell pectinately ovate, thick, white, copiously radiately blotched and dotted with red-brown, concentrically ribbed, ribs broad, obtusely swollen, radiately ridged, ridges regular, sometimes duplicate, lunule and ligamentary area broadly excavated.

SOWERBY, Pro. Zool. Soc. 1835, p. 21.

Hab. Puerto Portrero, Central America (in fine sand at a depth of thirteen fathoms); Cuming.

A solid richly-coloured species, with somewhat of the general external aspect of a *Pectunculus*.

Species 86. (Mus. Cuming.)

VENUS SUBRUGOSA. *Ven. testâ subtrigono-ovatâ, fulvescente-albâ, griseo et olivaceo-nigricante conspicuè quadri-radiatâ, lævigatâ, versus umbones plus minus corrugato-costatâ, interstitiis crispato-sulcatis et punctatis.*

THE WRINKLED VENUS. Shell somewhat triangularly ovate, fulvous-white, conspicuously four-rayed with grey and olive-black, smooth, more or less wrinkle-ribbed towards the umboes, the interstices being crisply grooved and punctured.

SOWERBY, Genera of Shells, *Venus*, f. 2.

Hab. West Columbia; Cuming.

Almost invariably characterized by four conspicuous dark rays.

Species 87. (Mus. Cuming.)

VENUS CALLOSA. *Ven. testâ pectinato-ovatâ, posticè subtrigono-productâ purpureo-griseo et ferrugineo tinctâ et variegatâ, radiatim duplicato-liratâ, concentricè irregulariter rudè plicato-striatâ.*

THE CALLOUS VENUS. Shell pectinately ovate, posteriorly somewhat triangularly produced, stained and variegated with purple-grey and rust, radiately dupli-

cately ridged, concentrically irregularly rudely plicately striated.

CONRAD, Journ. Acad. Nat. Sci. Phil. vol. vii. p. 252.

Hab. Sandwich Islands and California.

Richly stained within with violet on the posterior side. The lunule and ligamentary area are almost obsolete.

Species 88. (Mus. Cuming.)

VENUS CANCELLATA. *Ven. testâ pectinato-ovatâ, fulvâ, brunneo maculatâ et aspersâ, concentricè laminatâ, laminis brevibus, distantibus, versus marginem irregularibus, radiatim lirâtâ, liris duplicibus, areâ ligamenti latè excavatâ, brunneo strigatâ.*

THE CANCELLATED VENUS. Shell pectinately ovate, fulvous, blotched and sprinkled with brown, concentrically laminated, laminæ short, distant, irregular towards the margin, radiately ridged, ridges duplicate, ligamentary area broadly excavated, striped with brown.

LINNÆUS, Syst. Nat. p. 1130.

Venus dysera Linnei, Chemnitz.

Hab. Honduras.

So much confusion attends the synonymy of the Linnean *V. dysera* that the species, as already stated, is expunged from the catalogue.

Species 89. (Mus. Cuming.)

VENUS PAPHIA. *Ven. testâ trigono-ovatâ, crassâ, carneo-albâ, violaceo, fuscescente undique undato-maculatâ, concentricè costatâ, costis latissimis callosis, posticè erectè laminatis, areâ ligamenti latissimè excavatâ.*

THE PAPHIA VENUS. Shell triangularly ovate, thick, flesh-white, wave-marked throughout with violet-brown, concentrically ribbed, ribs very broad and callous, posteriorly erectly laminated, ligamentary area very broadly excavated.

LINNÆUS, Syst. Nat. p. 1129.

Hab. West Indies.

The type of an exceedingly interesting group, of which some conspicuous examples occur in Plate XXIII.



91.a.



90.a.



91.b.



92.



93.



94.



95.



96.a.



96.b.



90.b.

VENUS.

PLATE XX.

Species 90. (Fig. *a, b*, Mus. Cuming.)

VENUS SPURCA. *Ven. testá ovatá, plus minus crassá, fulvescente-spadiceá, violaceo-fusco interdum lineari-undatá, concentricè costatá, costis tumidis, obtusis, confertis, lunulá et areá ligamenti angustis.*

THE DIRTY VENUS. Shell ovate, more or less thick, fulvous-drab, sometimes linearly waved with violet-brown, concentrically ridged, ribs swollen, obtuse, close-set, lunule and ligamentary area narrow.

SOWERBY, Pro. Zool. Soc. 1835, p. 23.

Venus crassa, denticulata, mesodesma, spissa, and violacea, Quoy.

Venus calata, Menke.

Hab. New Zealand; Quoy. Valparaiso and Philippine Islands; Cuming.

A well-marked species, possessing a singularly wide geographical distribution.

Fig. 91. (Fig. *a, b*, Mus. Cuming.)

Having figured only the large Mediterranean form of *V. striatula* (*V. gallina*, Maton and Rackett), we give here two typical British varieties.

Species 92. (Mus. Cuming.)

VENUS ÆQUILATERA. *Ven. testá trigono-oblongá, compressá, subæquilaterali, fulvescente, carneo-fuscescente latè triradiatá, versus marginem fusco lentiginosá, concentricè liratá, liris subtilibus, plano-obtusis, creberrimis, plus minus obsoletis, lunulá et areá ligamenti angustis.*

THE EQUAL-SIDED VENUS. Shell triangularly oblong, compressed, nearly equal-sided, fulvous, broadly three-rayed with flesh-brown, freckled towards the margin with brown, concentrically ridged, ridges fine, flatly obtuse, very close-set, more or less obsolete, lunule and ligamentary area narrow.

Donax æquilatera, Sowerby, Tank. Cat. p. 12.

Venus æquilatera, Sowerby, jun.

Hab. Japan.

This species when catalogued in the Tankerville collection, was referred by Mr. Sowerby, with a note of doubt, to the *Venus donacina* of Chemnitz, figured below it in the accompanying plate.

Species 93. (Mus. Cuming.)

VENUS PERONII. *Ven. testá ovato-cuneiformi, latere antico brevissimo, subventricosá, fulvescente, griseo lineari-reticulatá, concentricè liratá, liris confertis, plano-obtusis.*

PERON'S VENUS. Shell ovately wedge-shaped, anterior side very short, rather ventricose, fulvous, linearly reticulated with grey, concentrically ridged, ridges close-set, flatly obtuse.

LAMARCK, Anim. sans vert. vol. vi. p. 369.

Hab. Australia.

Of the same peculiar type as *V. Aphrodinoides*, but more ovate and gibbous, with the concentric ridges almost obsolete.

Species 94. (Mus. Cuming.)

VENUS STRIGOSA. *Ven. testá ovato-cuneiformi, posticè subattenuatá, fulvescente-spadiceá, concentricè liratá et striatá, liris striisque confertis, valde irregularibus, ad latera corrugatis, lunulá et areá ligamenti angustis.*

THE FULLY-STRIATED VENUS. Shell ovately wedge-shaped, rather attenuated posteriorly, fulvous-rust, concentrically ridged and striated, ridges and striæ crowded, very irregular, wrinkled at the sides, lunule and ligamentary area narrow.

LAMARCK, Anim. sans vert. vol. vi. p. 368.

Hab. Australia.

As intimated by M. Deshayes, this may prove to be a ridged variety of *V. Aphrodina*.

Species 95. (Mus. Cuming.)

VENUS DONACINA. *Ven. testá trigono-ovatá, compressá, subæquilaterali, crassá, latere postico flexuoso-angulato,*

antico rotundato, fulvescente, purpureo-griseo undato-lentiginosâ, lævigatâ, vel obscure concentricè plano-liratâ.

THE DONAX-LIKE VENUS. Shell triangularly ovate, compressed, nearly equilateral, thick, posterior side flexuously angled, anterior rounded, fulvous, wave-freckled with purple-grey, smooth, or obscurely concentrically flatly ridged.

CHEMNITZ, Conch. Cab. vol. xi. p. 231. pl. 202. f. 1983, 1984.

Donax Veneriformis, Lamarck.

Venus semicancellata, Koch.

Hab. Japan.

Chemnitz truly noticed that this peculiar species combined the form of *Donax* with the hinge of *Venus*.

Species 96. (Fig. a, b, Mus. Cuming.)

VENUS SCALARINA. *Ven. testâ ovato-cuneiformi, nunc compressâ nunc ventricosiusculâ, fulvescente-albâ, griseo lineari-undatâ, concentricè lirâtâ, liris valde irregularibus, obtusis, ad latera corrugato-productis, areâ ligamenti subexcavatâ.*

THE LADDER-MARKED VENUS. Shell ovately wedge-shaped, sometimes compressed, sometimes rather ventricose, fulvous-white, linearly waved with grey, concentrically ridged, ridges very irregular, obtuse, corrugately produced at the sides, ligamentary area slightly excavated.

LAMARCK, Anim. sans vert. vol. vi. p. 359.

Venus conularis, Lamarck.

Hab. Australia.

Very closely allied to *V. Aphrodinoides* and *strigosa*, but of a different form with the ligamentary area more defined.



97.a.



97.b.



98.a.



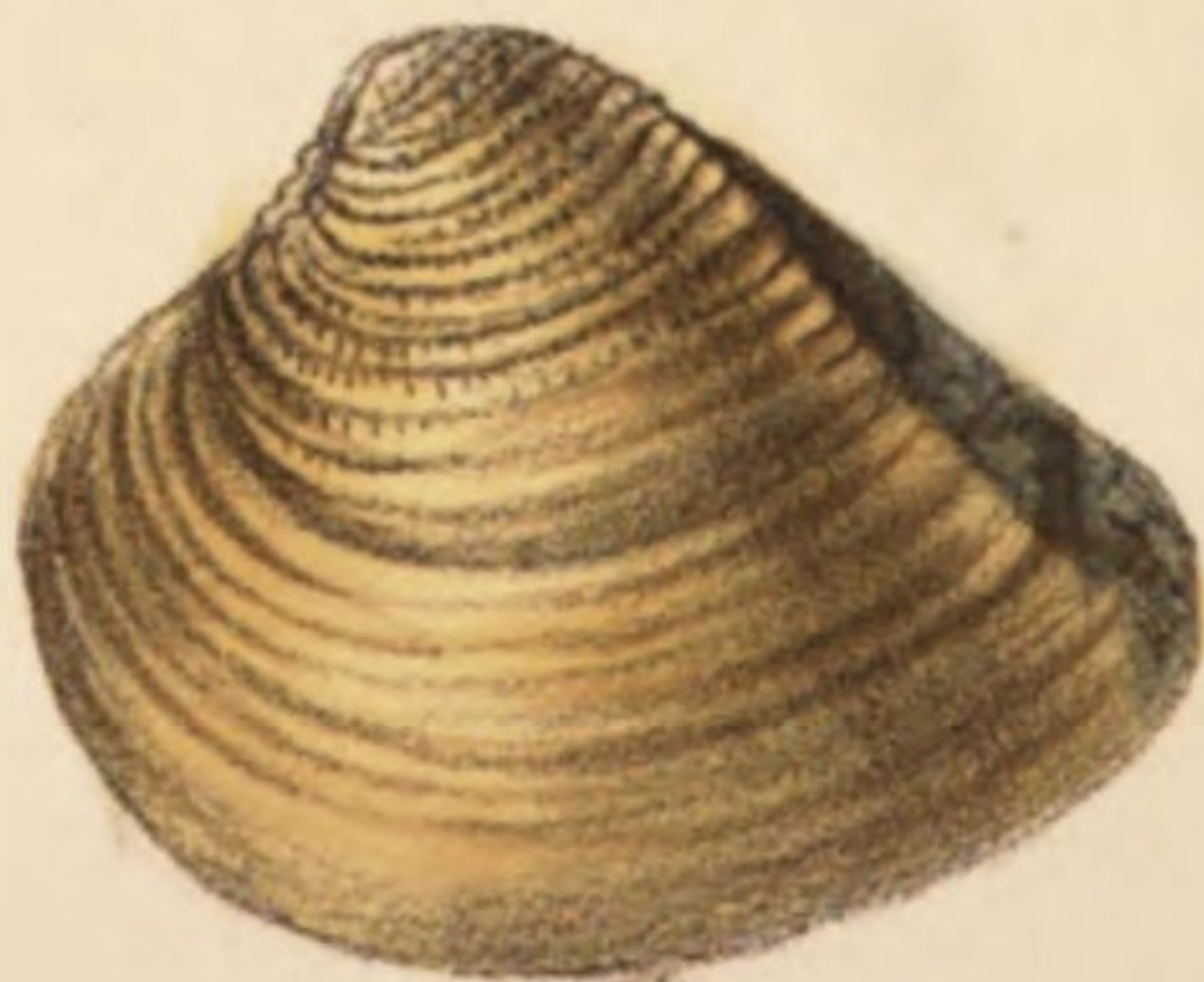
98.b.



98.c.



99.



98.d.



100.



101.



102.

VENUS.

PLATE XXI.

Species 97. (Mus. Cuming.)

VENUS SCABRA. *Ven. testá ovatá, posticè subflexuosá, tenui, sordidè spadiceá, radiatim tenuiliratá, concentricè densè scabroso-fimbriatá, lunulá subamplá, areá ligamenti angustá.*

THE ROUGH VENUS. Shell ovate, slightly flexuous posteriorly, thin, dull fawn-colour, radiately finely ridged, concentrically densely scabrously fimbriated, lunule rather large, ligamentary area narrow.

HANLEY, Pro. Zool. Soc. 1844. p. 161. Recent Shells, App. p. 361. pl. 16. f. 24.

Hab. Australia.

A shell of light substance, elaborately scabrously sculptured throughout.

Species 98. (Fig. a to d, Mus. Cuming.)

VENUS MACRODON. *Ven. testá obliquè trigono-ovatá, posticè flexuoso-productá, crassá, fulvescente-albá, griseo interdum lentiginosá, interdum omnino violaceo-fuscá, concentricè rudè rugatá, rugis ad angulum posticum parvis, numerosis, areá ligamenti amplá, latissimá.*

THE LARGE-TOOTH VENUS. Shell obliquely triangularly ovate, posteriorly flexuously produced, thick, fulvous-white, sometimes freckled with grey, sometimes altogether violet-brown, concentrically rudely wrinkled, wrinkles small and numerous at the posterior angle, ligamentary area large, very broad.

Cytherea macrodon, Lamarck, Anim. sans vert. vol. 6. p. 327.

Cytherea lunulata, Lamarck.

Venus macrodon, Philippi.

Hab. Brazil.

This species, as may be seen from the four specimens selected for illustration, is extremely variable both in form and colour.

Species 99. (Mus. Cuming.)

VENUS FLEXUOSA. *Ven. testá ovalá, gibbosá, posticè flexuoso-attenuatá, fulvescente-spadiceá, livido-griseo*

tinctá et radiatá, concentricè subrudè rugatá, rugis sulcis linearibus radiantibus crenatis, lunulá amplá, areá ligamenti subangustá.

THE FLEXUOUS VENUS. Shell ovate, gibbous, posteriorly flexuously attenuated, fulvous-drab, stained and radiated with livid-grey, concentrically rather rudely wrinkled, wrinkles crenated by radiating linear grooves, lunule large, ligamentary area rather narrow.

LINNÆUS, Syst. Nat. p. 1133.

Venus impressa, Anton.

Hab. China.

A more gibbous shell than the preceding, more attenuately produced on the posterior side, and having, therefore, a narrower ligamentary area.

Species 100. (Mus. Cuming.)

VENUS DECORATA. *Ven. testá cordato-ovatá, gibbosá, posticè attenuato-productá, fulvescente-albá, ferrugineo-fusco tinctá et radiatá, concentricè costatá, liris radiantibus crenato-clathratá, liris posticis scabrosis, lunulá et areá ligamenti nitidè impressis, intensè fuscis.*

THE ADORNED VENUS. Shell cordately ovate, gibbous, posteriorly attenuately produced, fulvous-white, stained and radiated with rust-brown, concentrically ribbed, crenately latticed with radiating ridges, posterior ridges scabrous, lunule and ligamentary area neatly impressed, dark brown.

BRODERIP and SOWERBY, Zool. Journ. vol. 5. p. 49.

Venus bella, Jonas.

Hab. West Indies.

The latticed sculpture is in strong relief, imparting an elaborately carved aspect to the shell.

Species 101. (Mus. Cuming.)

VENUS SQUAMOSA. *Ven. testá cordato-ovatá, gibbosiusculá, posticè flexuoso-acuminatá, sordidè fulvescente, radiatim liriatá, liris confertis, liris tenuibus, scabrosis, rudè fimbriato-clathratis, lunulá amplá, areá ligamenti amplá, subcompressá.*

THE SCALED VENUS. Shell cordately ovate, rather gib-

bous, posteriorly flexuously acuminate, dull-fulvous, radiately ridged, ridges close-set, rudely fimbriately latticed with thin scabrous ridges, lunule large, ligamentary area large but rather compressed.

LINNÆUS, Syst. Nat. p. 1133.

Cytherea squamosa, Lamarck.

Hab. Philippine Islands, Bay of Manilla (in sandy mud); Cuming.

The latticed sculpture of this species is not in sharp relief as in *V. decorata*, but crowded and obtuse.

Species 102. (Mus. Cuming.)

VENUS SUBNODULOSA. *Ven. testâ suboblongo-ovatâ, sub-æquilaterali, fulvescente-albâ, roseo-fusco tinctâ et radiatim trigono-maculatâ, radiatim plicato-costatâ, cos-*

tis et interstitiis undique regulariter lineari-sulcatis, lunulâ impressâ, intensè fuscâ, areâ ligamenti parvâ, excavatâ, maculatâ.

THE SLIGHTLY-NODULED VENUS. Shell rather oblong-ovate, nearly equilateral, fulvous-white, stained and triangularly radiately blotched with rose-brown, radiately plicately ribbed, ribs and interstices regularly linearly grooved throughout, lunule impressed, dark-brown, ligamentary area small, excavated, spotted.

HANLEY, Pro. Zool. Soc. 1844. p. 160. Recent Shells, App. p. 360. pl. 16. f. 19.

Hab. Philippine Islands.

Encircled with great regularity by fold-like ribs, which, together with the interstices, are beautifully linearly grooved throughout. The grooves can scarcely, however, be said to render the ribs nodulous.



103.



104.a.



104.b.



104.c.



105.a.



105.b.



106.



107.a.



107.b.



108.

VENUS.

PLATE XXII.

Species 103. (Mus. Cuming.)

VENUS COSTELLIFERA. *Ven. testá transversè ovatá, subæquilaterali, fulvescente-albá, rufo-fusco sparsim punctatá, undique radiatim costellatá, costellis confertis, concentricè imbricatis, lunulá obsoletá, areá ligamenti parvâ, angustâ.*

THE FINELY-RIBBED VENUS. Shell somewhat transversely ovate, nearly equilateral, fulvous-white, sparingly dotted with red-brown, finely radiately ribbed throughout, ribs close-set, concentrically imbricated, lunule obsolete, ligamentary area small, narrow.

ADAMS and REEVE, Moll. Voy. Samarang, p. 79. pl. 21. f. 18.

Hab. Philippine Islands; Belcher.

Allied to *V. Marica*, but destitute of any posterior foliations, and with a much smaller ligamentary area.

Species 104. (Fig. a, b, c, Mus. Cuming.)

VENUS MARICA. *Ven. testá transversè ovatá, subæquilaterali, utrinque umbones subangulatâ, fulvescente-albâ, interdum roseo tinctâ, spadiceo-fusco radiatim maculatâ, radiatim costellatâ, costellis laminis scabrosis concentricis imbricatis, laminis ad angulum posticum foliaceis, lunulâ et areá ligamenti subamplis, modicè impressis, saturatè fuscis.*

THE MARICA VENUS. Shell transversely ovate, nearly equilateral, rather angular on either side of the umbones, fulvous-white, sometimes tinged with rose, radiately blotched with fawn-brown, radiately finely ribbed, ribs imbricated with concentric scabrous laminæ, laminæ foliaceous on the posterior angle, lunule and ligamentary area rather large, moderately impressed, dark-brown.

LINNÆUS, Syst. Nat. p. 1130.

Hab. Philippine Islands; Cuming.

It will be seen that a great deal of interesting character is developed in this species.

Species 105. (Fig. a, b, Mus. Cuming.)

VENUS BILINEATA. *Ven. testá cordato-orbiculari, interdum subtriangulari, crassâ, fulvescente, olivaceo-fusco undique radiatim bilineatâ, radiatim tenuiliratâ, con-*

centricè liratâ, liris irregularibus, nunc laminatis, nunc obtusis, lunulâ et areá ligamenti intensè fuscis, acutè excavatis.

THE TWO-LINED VENUS. Shell cordately orbicular, sometimes rather triangular, thick, fulvous, radiately two-lined throughout with olive-brown, radiately finely ridged, concentrically ridged, ridges irregular, sometimes laminated, sometimes obtuse, lunule and ligamentary area dark-brown, sharply excavated.

Hab. Gulf of California.

A strongly-marked species, partaking of the characters of *V. compta* and *subimbricata*; all three may, indeed, be different states of one and the same species.

Species 106. (Mus. Cuming.)

VENUS GALLINULA. *Ven. testá transversè ovatâ, suboblongâ, fulvescente, spadiceo-fusco undique punctatâ, concentricè laminato-costatâ, costis numerosis, subreflexis, subcrenulatis, lunulâ et areá ligamenti modicè excavatis.*

THE HEN VENUS. Shell transversely ovate, rather oblong, fulvous, dotted throughout with fawn-brown, concentrically laminately ribbed, ribs numerous, a little reflected, slightly crenulated, lunule and ligamentary area moderately excavated.

LAMARCK, Anim. sans vert. vol. vi. p. 348.

Hab. Australia.

Concentrically reflectedly ridged with great regularity, the ridges being dotted throughout with fawn-brown. I follow Mr. Sowerby in assigning this shell to Lamarck's *V. gallinula*, but it should be stated that great doubt attaches to that opinion. Lamarck describes his species as being "cordately elliptic," which this shell is not.

Species 107. (Fig. a, b, Mus. Cuming.)

VENUS AUSTRALIS. *Ven. testá transversè ovatâ, utrinque umbones subtriangulari, fulvescente-albâ, ferrugineo-roseo interdum tinctâ, spadiceo-fusco interruptè tri-radiatâ, undique confertim imbricato-clathratâ, lunulâ et areá ligamenti subangustis.*

THE SOUTHERN VENUS. Shell transversely ovate, some-

what triangular on either side the umboes, fulvous-white, sometimes tinged with rust-rose, interruptedly three-rayed with fawn-brown, closely imbricately latticed throughout, lunule and ligamentary area rather narrow.

SOWERBY, Pro. Zool. Soc. 1835. p. 22.

Hab. Australia.

Exquisitely sculptured throughout, and almost invariably characterized by three interrupted rays of colour.

Species 108. (Mus. Cuming.)

VENUS FASCIATA. *Ven. testā cordato-orbiculari, compressā, crassā, fulvescente-carneā vel aurantiā, rufo irregulariter radiatim fasciatā, radiatim corrugato-costatā, costis versus marginem calloso-incrassatis et*

obtusis, lunulā parum impressā, areā ligamenti subprofundè excavatā.

THE BANDED VENUS. Shell cordately orbicular, compressed, thick, fulvous flesh-colour, or orange, irregularly radiately banded with red, radiately wrinkle-ribbed, ribs callously thickened and obtuse towards the margin, lunule but little impressed, ligamentary area rather deeply excavated.

Pectunculus fasciatus, Da Costa, Brit. Conch. p. 188. pl. 13. f. 3.

Venus fasciata, Donovan.

Venus Brongniarti, Payraudeau.

Hab. European seas, from the Mediterranean to the shores of Norway (at depths of from ten to fifty fathoms).

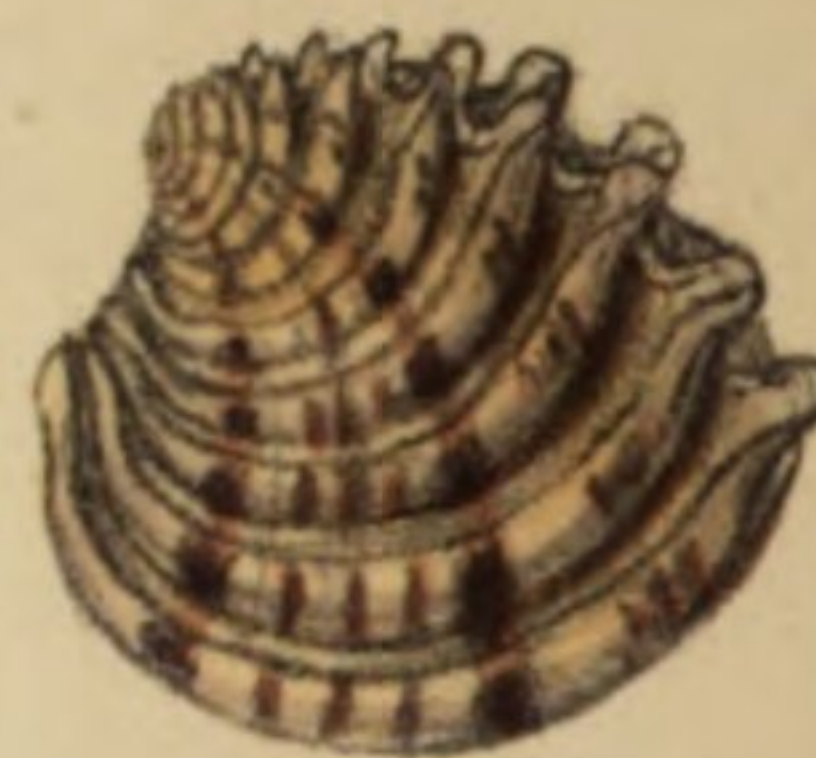
The colour of this well-known species varies from bright orange-red to deep purple-red, and sometimes the pattern is not only rayed but reticulately flamed.



109 b.



109 a.



110.



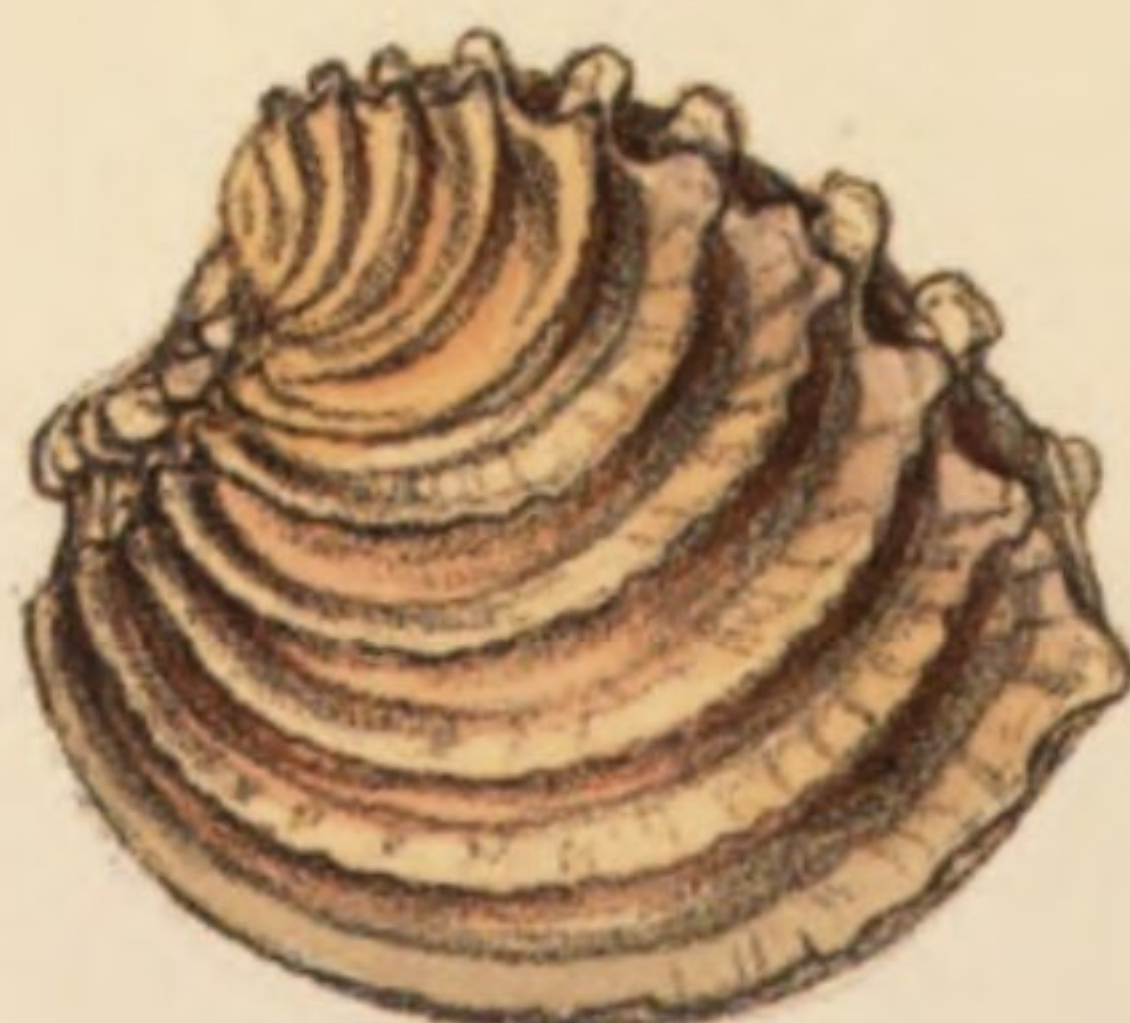
111.



112.



113.



114.



115.



116 a.



116 b.

VENUS.

PLATE XXIII.

Species 109. (Fig. 109, *a*, *b*, and 110, Mus. Cuming.)

VENUS THIARA. *Ven. testâ cordato-orbiculari, subdepressâ, fulvescente-albâ, nitente, purpureo modicè radiatâ, concentricè laminatâ, laminis latis, interdum callosiusculis, subreflexis, posticè interruptis et foliaceis.*

THE TURBAN VENUS. Shell cordately orbicular, rather depressed, fulvous-white, shining, moderately rayed with purple, concentrically laminated, laminæ broad, sometimes rather callous, a little reflected, interrupted and foliaceous on the posterior side.

DILLWYN, Desc. Cat. vol. i. p. 162.

Venus foliacea, Philippi.

Hab. — ?

An elegantly laminated shell, more or less stained with purple.

Species 111. (Mus. Cuming.)

VENUS DECLIVIS. *Ven. testâ orbiculari-ovatâ, crassiusculâ, fulvescente-albâ, purpureo-fusco variè lentiginosâ, concentricè laminato-liratâ, laminis erectis, regularibus, ad latus posticum appressis, areâ ligamenti modicè excavatâ.*

THE SLOPING VENUS. Shell orbicularly ovate, rather thick, fulvous-white, variously freckled with purple-brown, concentrically laminately ridged, laminæ erect, regular, appressed on the posterior side, ligamentary area moderately excavated.

SOWERBY, Thes. Conch. part 14. p. 730. pl. 157. f. 123, 124.

Hab. — ?

The laminæ are unusually regular, rather appressed on the posterior side.

Species 112. (Mus. Cuming.)

VENUS ISABELLINA. *Ven. testâ cordato-orbiculari, solidiusculâ, nitente-albâ, carneo-purpureo sparsim tinctâ, concentricè laminatâ, laminis subdistantibus, erectis, ad latus anticum excavato-interruptis, lunulâ parvâ, areâ ligamenti subamplâ, latâ.*

THE ISABELLINE VENUS. Shell cordately-orbicular, rather solid, shining white, sparingly tinged with flesh-purple, concentrically laminated, laminæ rather distant, erect, excavately interrupted on the anterior side, lunule small, ligamentary area rather large, broad.

PHILIPPI, MS. in Mus. Cuming.

Hab. Sydney.

This may be regarded as the Australian representative of the China *V. calophylla*. It is a more solid shell, of rounder form, with no posterior foliations of the laminæ.

Species 113. (Mus. Cuming.)

VENUS ROBORATA. *Ven. testâ subcordato-orbiculari, crassâ, depressâ, eburneâ, concentricè costatâ, costis conspicuè reflexis, ad extremitatem anticam radiatim excavatis, areâ ligamenti modicè excavatâ.*

THE STRENGTHENED VENUS. Shell subcordately orbicular, thick, depressed, ivory-white, concentrically ribbed, ribs conspicuously reflected, radiately excavated at the anterior extremity, ligamentary area moderately excavated.

HANLEY, Pro. Zool. Soc. 1844. p. 161. Recent Shells, App. p. 361. pl. 16. f. 25.

Venus placida, Philippi.

Hab. Tasmania.

An excellent species of shining ivory-white substance, with the ribs developed in bold relief and obtusely reflected.

Species 114. (Mus. Cuming.)

VENUS CALOPHYLLA. *Ven. testâ cordato-orbiculari, calcareo-albâ, concentricè laminatâ, laminis latis, distantibus, declivi-erectis, ad latus anticum radiatim excavatis, ad posticum interruptè foliaceis, areâ ligamenti modicè excavatâ.*

THE BEAUTIFUL-LEAVED VENUS. Shell cordately orbicular, chalk-white, concentrically laminated, laminæ broad, distant, slopingly erect, radiately excavated on the anterior side, interruptedly foliaceous on the posterior, ligamentary area moderately excavated.

HANLEY, Recent Shells, App. p. 361. pl. 16. f. 26.

Venus Cumingii, Sowerby.

Hab. China.

For a long time this well-known China shell was regarded by collectors as the *V. thiara*.

Species 115. (Mus. Cuming.)

VENUS ALTA. *Ven. testâ cordato-trigonâ, crassiusculâ, compressâ, fulvescente-albâ, carneo-purpurascence latiradiatâ, concentricè laminatâ, laminis callosiusculis, paululum reflexis, areâ ligamenti amplâ, latè excavatâ, intensè violaceo-purpureâ.*

THE CHERISHED VENUS. Shell cordately triangular, rather thick, compressed, fulvous-white, broadly rayed with flesh-purple, concentrically laminated, laminae rather callous, a little reflected, ligamentary area large, broadly excavated, deep violet-purple.

SOWERBY, Thes. Conch. part 14. p. 724. pl. 158. f. 131 to 133.

Hab. Philippine Islands; Cuming.

A solid compressly-pinched shell, with a broadly-excavated burnt purple-stained ligamentary area.

Species 116. (Mus. Cuming.)

VENUS CYPRIA. *Ven. testâ trigono-ovalâ, subangustâ, posticè attenuatâ, fulvescente-albâ, carneo-purpurascence radiatâ et aspersâ, concentricè costatâ, costis plus minus incrassatis, reflexis, posticè sublacunatis, lunulâ et areâ ligamenti subamplis.*

THE CYPRIA VENUS. Shell triangularly ovate, rather narrow, posteriorly attenuated, fulvous-white, rayed and sprinkled with flesh-purple, concentrically ribbed, ribs more or less thickened, reflected, posteriorly slightly spouted, lunule and ligamentary area rather large.

SOWERBY, Pro. Zool. Soc. 1852. p. 43.

Hab. Isle of Plata, West Columbia.

This is not a satisfactory species. It has all the appearance of being an attenuately-produced form of the West Indian *V. Paphia*.



117.



118.



119 a.



120.



121.



119 b.



122.



123



124.



125.

VENUS.

PLATE XXIV.

Figure 117. (Mus. Cuming.)

This shell, which was thought to be an undescribed species, appears to be a rather gibbous form of *V. undulosa*.

Species 118. (Mus. Cuming.)

VENUS IMBRICATA. *Ven. testā ovato-subcordatā, posticè angulatā, albidā, ferrugineo-fusco tinctā, ad umbones livido-violaceā, radiatim costatā, costis crenato-imbricatis, interstitiis nitidè excavatis, pallidis.*

THE IMBRICATED VENUS. Shell ovately subcordate, posteriorly angled, whitish, tinged with rust-brown, livid-violet at the umboes, radiately ribbed, ribs crenately imbricated, interstices neatly excavated, pale.

SOWERBY, Thés. Conch. vol. ii. p. 175. pl. 156. f. 81, 82.
Venus Cochinchensis, Sowerby.

Chione imbricata and *Cochinchensis*, Deshayes.

Hab. China Seas.

A radiately ribbed *Cardita*-like shell, the ribs being neatly imbricated throughout with equidistant scales, and the ribs are coloured with a rust-brown hue, while the interstices are cleanly excavated and paler in colour. The umboes are livid-violet.

Species 119. (Fig. a, b, Mus. Cuming.)

VENUS FLUCTUOSA. *Ven. testā subtrigono-ovatā, tenui, compressiusculā, posticè subproductā, albidā, epidermide lutescente nitente indutā, ad umbones plus minus erosā, concentricè irregulariter corrugato-liratā.*

THE WAVY VENUS. Shell somewhat triangularly ovate, thin, rather compressed, posteriorly slightly produced, whitish, covered with a shining yellowish epidermis, more or less eroded at the umboes, concentrically irregularly wrinkle-ridged.

GOULD, Invert. Mass. p. 87. f. 50.

Venus Astartoides, Beck.

Chione Astartoides, Deshayes.

Hab. Greenland; Newfoundland; Bay of Massachusetts, United States.

Of quite a different type from any other species of the genus.

Species 120. (Mus. Cuming.)

VENUS CUNEIFORMIS. *Ven. testā obliquè cuneiformi, solidā, compressiusculā, albidā, fusco pallidè lineari-undatā, ad umbones livido-purpurascens, concentricè irregulariter rudè plicato-striatā, striis circa umbones et ad marginem posticum liratis.*

THE WEDGE-SHAPED VENUS. Shell obliquely wedge-shaped, solid, rather compressed, whitish, faintly linearly waved with brown, livid-purple at the umboes, concentrically irregularly rudely plicately striated, striæ ridged round the umboes and along the posterior margin.

Hab. — ?

This shell approximates to the Australian *V. Aphrodi-noides*, but it differs materially in sculpture.

Species 121. (Mus. Cuming.)

VENUS TASMANICA. *Ven. testā subtrigono-oblongā, compressā, posticè subtruncatā, albidā, livido-purpurascens plus minus tinctā et fasciatā, concentricè plicato-costatis, costis obtusè reflexis, ad basin crenulatis, lunulā parvā, oblongo-cordatā, marginibus denticulatis, intus livido-purpureā.*

THE TASMANIAN VENUS. Shell somewhat triangularly oblong, compressed, posteriorly rather truncated, whitish, more or less tinged and banded with livid-purple, concentrically plicately ribbed, ribs obtusely reflected, crenulated at the base, lunule small, oblong-cordate, margins denticulated, livid-purple within.

Hab. Tasmania.

An interesting little species of the same peculiar type as M. Deshayes' *V. mitis*, one of its most conspicuous features being the basal crenulation of the ribs.

Species 122. (Mus. Cuming.)

VENUS BERRII. *Ven. testā cordato-trigonā, solidā, compressā, valde inæquilaterali, albidā, livido-cinereo aut fuscescente tinctā, concentricè plicato-liratā, areā ligamenti amplā, curvatā, concavo-excavatā.*

BERRY'S VENUS. Shell cordately triangular, solid, compressed, very inequilateral, whitish, tinged with livid-

ash or pale-brown, concentrically plicately ridged, ligamentary area large, curved, concavely excavated.

GRAY, Wood, Ind. Test. Supp. pl. 2. f. 2.

Chione Berrii, Deshayes.

Hab. Australia.

A solid well-marked species, of a peculiarly livid tone of colour.

Species 123. (Mus. Cuming.)

VENUS EXILIS. *Ven. testā ovalā, modicè convexā, cærulescente-albā, epidermide corneā lævigatā tenui indutā, lunulā nullā.*

THE SLENDER VENUS. Shell ovate, moderately convex, bluish-white, covered with a thin smooth horny epidermis, no lunule.

LAMARCK, Anim. sans vert. vol. vi. p. 359.

Hab. Ceylon.

It is not without considerable doubt that I refer this shell to Lamarck's *Venus exilis*. It is of very simple character, covered with a smooth horny epidermis.

Species 124. (Mus. Cuming.)

VENUS SALLEI. *Ven. testā trigono-Donaciformi, versus margines compressā, albidā, cinereo-griseo latiradiatā,*

latere antico lævigato, vel exiliter plicato, postico dense clathrato.

SALLÈ'S VENUS. Shell triangularly *Donax*-shaped, compressed towards the margins, whitish, broadly rayed with ash-grey, anterior side smooth or faintly concentrically plicated, posterior side densely latticed.

Hab. Bird's Island, Caribbean Sea; Sallè.

A very characteristic little species, with the general aspect of a *Donax*.

Species 125. (Mus. Cuming.)

VENUS VARICOSA. *Ven. testā obliquè trigonā, subcordatā, albidā, fulvescente-rufo obscurè radiatā et lineari-marmoratā, concentricè costatā, costis crassissimis, latissimis.*

THE VARICOSE VENUS. Shell obliquely triangular, somewhat heart-shaped, whitish, obscurely rayed and linearly mottled with fulvous-red, concentrically ribbed, ribs very thick and very broad.

SOWERBY, Thes. Conch. vol. ii. p. 723. pl. 155. f. 67.

Chione varicosa, Deshayes.

Hab. Bay of Mexico.

Remarkable for the very broad and solidly-developed character of its concentric ribs.



127



126 a.



128



126 b.



129



130



131



132



133



134

VENUS.

PLATE XXV.

Species 126. (Fig. a, b, Mus. Cuming.)

VENUS UNDULOSA. *Ven. testá trigoná, subæquilaterali, compressè convexá, albidá, rufo-fusco plus minus lineari-undatá, concentricè tenuistriatá.*

THE WAVED VENUS. Shell triangular, nearly equilateral, compressly convex, whitish, more or less linearly waved with red-brown, concentrically finely striated.

LAMARCK, Anim. sans vert. vol. vi. p. 370.

Venus undulosa and *variabilis*, Sowerby.

Chione undulosa, Deshayes.

Hab. Swan River, New Holland.

Of an unusual equilaterally triangular form, more or less copiously waved with red-brown lines upon a white ground.

Species 127. (Mus. Brit.)

VENUS MITIS. *Ven. testá subtrigono-ovatá, posticè subde-clivi-acuminatá, opaco-albá, umbonibus roseis, concentricè laminato-costatá, costis callosò-reflexis, in interstitiis radialim crenatis, intus purpurascete.*

THE MILD VENUS. Shell somewhat triangularly-ovate, posteriorly rather slopingly acuminate, opaque-white, umboes rose-coloured, concentrically lamellately ribbed, ribs callously reflected, radiately crenated in the interstices, purple within.

Chione mitis, Deshayes, Cat. Conch. Brit. Mus. p. 142.

Hab. Swan River, New Holland.

A delicate opaque-white *Corbula*-like shell, rose-coloured at the umboes, delicately crenulated in the interstices between the concentric ribs.

Species 128. (Mus. Cuming.)

VENUS GEMMA. *Ven. testá subtrigono-orbiculari, subobliquá, pellucido-albá, livido-purpurascete tinctá, concentricè tenuè lirato-striatá.*

THE GEM VENUS. Shell somewhat triangularly orbicular, rather oblique, pellucid white, tinged with livid-purple, concentrically finely ridge-striated.

TOTTEN, Sillim. Journ. vol. xxvi. p. 367. f. 2. a to d.

Gemma gemma, Deshayes.

Hab. Massachusetts Bay, United States.

"This beautiful little amethystine gem, as it has been

appropriately called," says Dr. Gould, "is found in great abundance on all the sandy shores of Massachusetts Bay. Colonel Totten found it in Newport Harbour, beyond which its range is not known."

Species 129. (Mus. Belcher.)

VENUS QUADRANGULARIS. *Ven. testá subquadrato-ovatá, compressiusculá, pallidè stramineá, nitente; umbonibus roseis, concentricè tenuè irregulariter striatá, lunulá parum distinctá.*

THE QUADRANGULAR VENUS. Shell somewhat squarely ovate, rather compressed, pale straw-colour, shining, pink at the umboes, concentrically finely irregularly striated, lunule but little distinct.

ADAMS and REEVE, Moll. Voy. Samarang, p. 79. pl. 24. f. 7.

Chione quadrangularis, Deshayes.

Hab. Corean Archipelago.

Peculiarly square-formed, of a light shining straw-colour, with pink umboes.

Species 130. (Mus. Brit.)

VENUS RUDERATA. *Ven. testá latè obliquè ovatá, sordidè albá, tenuè radialim lirata, liris binis, concentricè plicatá, plicis valde irregularibus, ad latus posticum rudè laminatis, lunulá nullá.*

THE RUDE VENUS. Shell broadly obliquely ovate, dead-white, finely radiately ridged, ridges in pairs, concentrically plicated, plaits very irregular, rudely lamellated on the posterior side, no lunule.

Chione ruderata, Deshayes, Cat. Conch. Brit. Mus. p. 136.

Hab. California.

Of peculiarly rude growth, with much of the general aspect of a *Venerupis*.

Species 131. (Mus. Cuming.)

VENUS OBESA. *Ven. testá obliquè ovatá, posticè subacuminatá, solidá, gibbosiusculá, lacteá, violaceo-griseo nitidè obscurè radiatá, lævigatá, epidermide tenui corneá partim indutá.*

THE STOUT VENUS. Shell obliquely ovate, posteriorly

rather acuminate, solid, rather gibbous, cream-colour, delicately obscurely rayed with violet-grey, smooth, partially covered with a thin horny epidermis. *Cytherea obesa*, Sowerby, Thes. Conch. vol. ii. p. 626. pl. 131. f. 83, 84.

Dione obesa, Deshayes.

Hab. — ?

A solid gibbous shell belonging more strictly to the genus *Dione*.

Species 132. (Mus. Brit.)

VENUS OBOVALIS. *Ven. testā ovatā, opaco-albā, concentricè dense minutè striatā, striis plus minus erosis, hic illic obsoletis, ad marginem posticum rudè plicato-corrugatis, lunulā parvā.*

THE OVAL VENUS. Shell ovate, opake-white, concentrically densely minutely striated, striæ more or less eroded, here and there obsolete, rudely plicately wrinkled on the posterior margin, lunule small.

Chione obovalis, Deshayes, Cat. Conch. Brit. Mus. p. 154.

Hab. — ?

A peculiarly soft opake-white shell, distinguished by a characteristic style of sculpture.

Species 133. (Mus. Belcher.)

VENUS ELEGANS. *Ven. testā oblongo-ovatā, compressè cordatā, candidā, posticè subangulatā, concentricè cos-*

tatā, costis subdistantibus, irregularibus, laminato-reflexis, præsertim ad angulum posticum, lunulā parvā.

THE ELEGANT VENUS. Shell oblong-ovate, compressly heart-shaped, white, posteriorly faintly angled, concentrically ribbed, ribs rather distant, irregular, lamellately reflected, especially on the posterior angle, lunule small.

ADAMS and REEVE, Moll. Voy. Samarang, p. 79. pl. 24. f. 13.

Chione elegans, Deshayes.

Hab. China Seas.

A delicate white shell, neatly sculptured with irregular concentric lamellæ, which are stronger on the posterior angle.

Species 134. (Mus. Cuming.)

VENUS IRREGULARIS. *Ven. testā cordato-ovatā, calcareo-albā, concentricè laminato-liratā et striatā, laminis striisque versus marginem numerosis gradatim confertioribus et irregularibus.*

THE IRREGULAR VENUS. Shell cordately ovate, chalk-white, concentrically lamellately ridged and striated, lamellæ and striæ numerous, gradually more close-set, and irregular towards the margin.

Hab. Mouth of the Gaboon, West Africa.

The concentric lamellæ are tolerably equidistant around the umboes, but soon they become particularly crowded and irregular.



135.



136.



137.a



137.b.



138.a.



138.b



138.c.



139.



140.



141.

VENUS.

PLATE XXVI.

Species 135. (Mus. Cuming.)

VENUS STRIATISSIMA. *Ven. testâ suboblongo-ovatâ, anticè subventricosâ, posticè subacuminatâ, fulvescente-albâ, rufescente-fusco maculatâ, liris radiantibus striisque lamelliformibus concentricis undique nitidè clathratâ.*

THE MUCH-STRIATED VENUS. Shell rather oblong-ovate, anteriorly somewhat ventricose, posteriorly somewhat acuminate, fulvous-white, mottled with red-brown, neatly latticed throughout with radiating ridges and concentric lamelliform striae.

SOWERBY, Thes. Conch. vol. ii. p. 718. pl. 157. f. 103-105.

Chione striatissima, Deshayes.

Hab. New Holland.

A beautifully-sculptured shell, belonging to the *V. marica* section of the genus.

Species 136. (Mus. Cuming.)

VENUS LAYARDI. *Ven. testâ suboblongo-ovatâ, posticè flexuoso-acuminatâ, fulvescente purpureo-fusco tinctâ, concentricè costatâ, costis callosis, ad marginem posticum bifariam obtusè squamatis, costarum interstitiis radiatim crenulatis, marginibus denticulatis.*

LAYARD'S VENUS. Shell rather oblong-ovate, posteriorly flexuously acuminate, fulvous, tinged with purple-brown, concentrically ribbed, ribs callous, obtusely doubly scaled on the posterior margin, interstices between the ribs radiately crenulated, margins denticulated.

Hab. Ceylon; E. L. Layard.

An interesting flexuously-winged species, of the same crenulated type as the Australian *V. mitis* and the Tasmanian *V. Tasmanica*.

Species 137. (Fig. a, b, c, Mus. Cuming.)

VENUS OVATA. *Ven. testâ ovatâ vel oblongo-ovatâ, posticè declivi-truncatâ, fulvescente aut griseâ, fusco sparsim maculatâ, radiatim costatâ, costis confertis, undique densè plicato-crenatis, lunulâ vix nullâ.*

THE OVATE VENUS. Shell ovate or oblong-ovate, posteriorly slopingly truncated, fulvous or grey, sparingly blotched with brown, radiately ribbed, ribs

close-set, densely plicately crenated throughout, scarcely any lunule.

PENNANT, Brit. Zool. vol. iv. p. 206. pl. 59. f. 3.

Venus spadicea, Renieri.

Venus pectinula, Lamarck.

Venus radiata, Scacchi.

Cytherea ovata, Thompson.

Chione ovata, Deshayes.

Hab. European Seas.

This pretty species of our own shores has a wide range throughout the European Seas passing into the Atlantic. The little specimen given at Fig. 137 a is from one of the Cape de Verd Islands.

Species 138. (Fig. a, b, c, Mus. Cuming.)

VENUS PYGMÆA. *Ven. testâ cordato-oblongâ, compressiusculâ, valde inæquilaterali, albidâ, fusco vel purpureo-roseo maculatâ, interdum vividè radiatâ, liris radiantibus lamellis concentricis fimbriatis undique confertim clathratâ.*

THE PYGMY VENUS. Shell cordately oblong, rather compressed, very inequilateral, white, spotted with brown or purple-rose, sometimes brightly rayed, closely latticed throughout with radiating ridges and concentric frilled lamellæ.

LAMARCK, Anim. sans vert. vol. vi. p. 337.

Chione pygmæa, Deshayes.

Hab. West Indies.

A beautifully-sculptured latticed species, in which the concentric lamellæ are furbelowed.

Figure 139. (Mus. Cuming.)

This proves to be a specimen of *V. exilis*, already described and figured in Plate XXIV.

Species 140. (Mus. Cuming.)

VENUS CERINA. *Ven. testâ subquadrato-cordatâ, solidiusculâ, fulvescente-albâ, ad lunulam et ad aream ligamenti fusco sparsim lineatâ, concentricè densè striatâ,*

striis hic illic confluentibus, in interstitiis decussatim crenulatâ, ad latera tenuè radiatim plicatâ, umbonibus subrostratis.

THE WAXEN VENUS. Shell somewhat squarely heart-shaped, rather solid, fulvous-white, sparingly lineated with brown at the lunule and ligamentary area, concentrically densely striated, striæ here and there confluent, decussately crenulated in the interstices, finely radiately plicated at the sides, umboes rather beaked.

C. B. ADAMS, MS. in Mus. Cuming.

Hab. —?

This little species will be found, on examination with the lens, to be full of character.

Species 141. (Mus. Cuming.)

VENUS GLOBULUS. *Ven. testâ globoso-cordatâ, posticè subtruncatâ, solidiusculâ, fulvescente-albâ, undique densè calloso-liratâ, liris subirregularibus, hic illic subreflexis, lunulâ amplâ, subindistinctâ.*

THE GLOBULE VENUS. Shell globosely heart-shaped, a little truncated on the posterior side, rather solid, fulvous-white, densely callously ridged throughout, ridges rather irregular, here and there a little reflected, lunule large, rather indistinct.

Hab. —?

A solid globose shell, elaborately concentrically ridged from the umboes throughout, with very much of the general appearance of a *Lucina*.

MONOGRAPH

OF THE GENUS

D I O N E.

“Call me goddess, nymph, divine, and rare,
Precious, celestial.”—*Shakspere.*

MONOGRAPH

ON THE VENUE

D I O N E

By the Author of "The Venue"

DIONE.

	Plate.	Species.		Plate.	Species.
<i>affinis</i> (<i>Cytherea</i>), Broderip	VIII.	30	<i>lupanaria</i> (<i>Cytherea</i>), Lesson . . .	VI.	20
<i>affinis</i> (<i>Venus</i>), Gmelin	IX.	35	<i>lutea</i> (<i>Cytherea</i>), Koch	XII.	62
<i>Africana</i> (<i>Cytherea</i>), Philippi . . .	XII.	57	<i>maculata</i> (<i>Pectunculus</i>), Lister . .	III.	11
<i>alabastrum</i> , <i>Reeve</i>	X.	42	<i>multispinosa</i> (<i>Cytherea</i>), Sowerby	VI.	22
<i>albida</i> (<i>Pectunculus</i>), Lister	X.	39	<i>multistriata</i> (<i>Cytherea</i>), Sowerby.	XII.	60
<i>alternata</i> (<i>Cytherea</i>), Broderip . .	VII.	25	<i>nivea</i> (<i>Cytherea</i>), Hanley	VII.	27
<i>angulifera</i> (<i>Cytherea</i>), Sowerby . .	XII.	55	<i>nobilis</i> (<i>Cytherea</i>), <i>Reeve</i>	IV.	15
<i>aurantia</i> (<i>Chione</i>), Gray	III.	12	<i>Pacifica</i> (<i>Venus</i>), Dillwyn	I.	5
<i>Australica</i> , <i>Reeve</i>	XI.	47	<i>pallescent</i> (<i>Cytherea</i>), Sowerby . .	XII.	58
<i>badia</i> (<i>Chione</i>), Gray	VIII.	33	<i>pannosa</i> (<i>Cytherea</i>), Sowerby . . .	XII.	62
<i>biradiata</i> (<i>Cytherea</i>), Sowerby . .	III.	10	<i>Paytensis</i> (<i>Cytherea</i>), D'Orbigny	VIII.	30
<i>brevispinata</i> (<i>Cytherea</i>), Sowerby	VI.	21	<i>pectoralis</i> (<i>Cytherea</i>), Sowerby . .	IV.	14
<i>Chinensis</i> (<i>Venus</i>), Chemnitz . . .	I.	5	<i>pellucida</i> (<i>Cytherea</i>), Lamarck . .	XI.	48
<i>Chione</i> (<i>Venus</i>), Linnæus	IV.	13	<i>phasianella</i> (<i>Venus</i>), Deshayes . .	XII.	56
<i>circinata</i> (<i>Venus</i>), Born	VII.	25	<i>piperita</i> (<i>Cytherea</i>), Sowerby . . .	XII.	59
<i>citrina</i> (<i>Cytherea</i>), Lamarck	X.	43	<i>prora</i> (<i>Cytherea</i>), Conrad	IX.	38
<i>concinna</i> (<i>Cytherea</i>), Sowerby . .	VIII.	31	<i>puella</i> (<i>Callista</i>), Carpenter . . .	XII.	62
<i>consanguinea</i> (<i>Cyth.</i>), C.B. Adams	XI.	46	<i>pulchra</i> (<i>Cytherea</i>), Gray	I.	1
<i>convexa</i> (<i>Cytherea</i>), Say	X.	40	<i>purpurata</i> , <i>Lamarck</i>	VIII.	32
<i>cordiformis</i> (<i>Cytherea</i>), Dunker .	IX.	35	<i>rosea</i> (<i>Cyth.</i>), Brod. and Sowerby	VII.	29
<i>costata</i> (<i>Venus</i>), Chemnitz	II.	9	<i>rostrata</i> (<i>Cytherea</i>), Koch	X.	41
<i>crocea</i> , <i>Deshayes</i>	XI.	53	<i>rubra</i> (<i>Venus</i>), Gmelin	VII.	25
<i>cygnus</i> (<i>Cytherea</i>), Lamarck	VIII.	34	<i>rufescens</i> , <i>Deshayes</i>	VII.	26
<i>Dione</i> (<i>Venus</i>), Linnæus	VI.	23	<i>rutila</i> (<i>Cytherea</i>), Sowerby	V.	18
<i>elegans</i> (<i>Cytherea</i>), Koch	III.	10	<i>Sayana</i> (<i>Cytherea</i>), Conrad	X.	40
<i>erubescens</i> , <i>Reeve</i>	XI.	54	<i>semilamellosa</i> (<i>Cyth.</i>), Gaudichaud	VI.	20
<i>Erycina</i> (<i>Venus</i>), Favanne	I.	3	<i>semisulcata</i> (<i>Cytherea</i>), Sowerby .	II.	6
<i>Erycinella</i> (<i>Cytherea</i>), Lamarck .	I.	1	<i>Sinensis</i> (<i>Cytherea</i>), Sowerby . . .	I.	5
<i>exspinata</i> , <i>Reeve</i>	VI.	24	<i>spathulata</i> (<i>Cytherea</i>), Sowerby .	II.	7
<i>festiva</i> (<i>Cytherea</i>), Sowerby	I.	2	<i>squalida</i> (<i>Cytherea</i>), Sowerby . . .	III.	10
<i>florida</i> (<i>Cytherea</i>), Lamarck	I.	1	<i>striata</i> (<i>Chione</i>), Gray	X.	44
<i>gigantea</i> (<i>Venus</i>), Chemnitz	V.	17	<i>subpellucida</i> (<i>Cytherea</i>), Sowerby	XI.	52
<i>glaber</i> (<i>Pectunculus</i>), Da Costa . .	IV.	13	<i>Tehuelcha</i> (<i>Venus</i>), D'Orbigny . .	X.	41
<i>grata</i> , <i>Deshayes</i>	IV.	14	<i>Torresica</i> , <i>Reeve</i>	XI.	51
<i>Guineensis</i> (<i>Venus</i>), Gmelin	VII.	25	<i>tortuosa</i> (<i>Cytherea</i>), Broderip . .	XII.	61
<i>Hagenowi</i> (<i>Cytherea</i>), Dunker . .	II.	7	<i>tumescens</i> (<i>Venus</i>), Blainville . . .	IX.	35
<i>impar</i> (<i>Cytherea</i>), Lamarck	II.	8	<i>umbonella</i> (<i>Cytherea</i>), Lamarck .	VII.	27
<i>inflata</i> (<i>Cytherea</i>), Sowerby	IX.	37	<i>unicolor</i> (<i>Cytherea</i>), Sowerby . . .	VIII.	33
<i>Kingii</i> (<i>Venus</i>), Gray	IX.	36	<i>ustulata</i> , <i>Reeve</i>	XI.	49
<i>læta</i> (<i>Venus</i>), Linnæus	IX.	35	<i>Veneris</i> (<i>Concha</i>), D'Argenville . .	VI.	23
<i>lepida</i> (<i>Cytherea</i>), Chenu	VII.	29	<i>virgo</i> (<i>Chione</i>), Gray	XI.	50
<i>ligula</i> (<i>Cytherea</i>), Anton	VIII.	33	<i>vulgaris</i> (<i>Chione</i>), Gray	IV.	13
<i>lilacina</i> (<i>Cytherea</i>), Lamarck	I.	4	<i>vulnerata</i> (<i>Cytherea</i>), Broderip . .	V.	16

ERRATA.

Plate VI., Sp. 20, for "*Cytherea lamellosa*, Gaudichaud," read "*Cytherea semilamellosa*, Gaudichaud."
 Plate VI., Fig. 23 on the plate should be Fig. 24, and Fig. 24 should be Fig. 23.



1a.



1b.



2.



3.



4a.



5.



4b.

DIONE.

PLATE I.

Genus DIONE, Megerle.

Testa ovata, turgidiuscula, nunc subincrassata, sæpissimè concentricè costata, nunc tenuis, lævigata, valde inæquilateralis, marginibus integris. Cardo in utrâque valvâ tridentatus, dentibus vix divergentibus. Impressio pallii posticè sinuatus, sinu subprofundo.

Shell ovate, rather swollen, sometimes rather thick, and mostly concentrically ribbed, sometimes thin and smooth, very inequilateral, margins entire. Hinge in each valve three-toothed, teeth scarcely divergent. Impression of the mantle sinuated posteriorly, sinus rather deep.

Two very distinct forms, represented respectively by the Linnæan *Venus Erycina* and *V. læta*, are referred to the genus *Dione*, even by those who have subdivided the family of *Veneridæ* into more genera than it has been deemed advisable to adopt in this work. In the first of these groups the shells are large, sometimes smooth and highly polished, sometimes concentrically ribbed, and all more or less conspicuous for their brilliancy of colouring; in the second the shell is thin, inflated, and almost colourless. The most remarkable species are a group, of which *D. Veneris* is the type, inhabiting Central America and the West Indies, in which the concentric ridges are prolonged on the posterior angle of the shell into spines.

The general distribution of *Dione* is the same as that of *Venus*, though not half so numerous in species. Central America, the Philippine Islands, and Australia are the principal places of habitation. There are, however, three important species, *D. Hagenowi*, *florida*, and *umbonella*, from the Red Sea, and we have a remarkably fine species for so northern a latitude as our own in *D. Chione*. *D. umbonella* is quoted as being a native also of Brazil; and another instance is presented of the same species being found in both hemispheres in *D. squalida*, which was certainly collected by Mr. Cuming at the Philippine Islands, and is reported to inhabit California also.

Species 1. (Fig. 1 a, b, Mus. Cuming.)

DIONE FLORIDA. *Dion. testâ ovalâ, versus marginem compressiusculâ, lacteâ vel cinereâ, fulvo-fuscescente plerumque minutè undatâ et variegatâ, versus marginem nigricante-violaceo conspicuè latè radiatâ, latere pos-*

tico obliquè producto, antico concentricè lineari-sulcato, sulcis subdistantibus, lunulâ nigricante-violaceâ, areâ ligamenti nitidè strigatâ.

THE FLORID DIONE. Shell ovate, rather compressed towards the margin, cream-coloured, or ash, generally minutely waved and variegated with fulvous-brown, conspicuously broadly rayed towards the margin with dark-violet, posterior side obliquely produced, anterior side concentrically linearly grooved, grooves rather distant, lunule dark-violet, ligamentary area neatly streaked.

Cytherea florida, Lamarck, Anim. sans vert. vol. vi. p. 305.

Cytherea pulchra, Gray.

Chione pulchra, Gray.

Cytherea Erycinella, Lamarck.

Dione florida, Deshayes.

Hab. Red Sea.

This very pretty species is sculptured in a very characteristic manner on the anterior side by a series of rather distant concentric linear grooves, the posterior being smooth.

Species 2. (Mus. Cuming.)

DIONE FESTIVA. *Dion. testâ suboblongo-ovalâ, posticè subattenuatâ, solidiusculâ, fulvescente-spadiceâ, violaceo-roseo radiatâ et fasciatâ, latere antico concentricè lineari-sulcato.*

THE PRETTY DIONE. Shell rather oblong-ovate, posteriorly a little attenuated, rather solid, fulvous-fawn, rayed and banded with violet-pink, anterior side concentrically linearly grooved.

Cytherea festiva, Sowerby, Thes. Conch. vol. ii. p. 625. pl. 130. f. 72.

Dione festiva, Deshayes.

Hab. Eastern Seas.

Conspicuously distinguished by its pretty violet-rose colouring.

Species 3. (Mus. Cuming.)

DIONE ERYCINA. *Dion. testâ subcordato-ovalâ, valde inæquilaterali, crassiusculâ, spadiceo-fuscâ, versus marginem aurantio-rufo tinctâ, chocolato-fusco interruptè radiatâ, concentricè undique lineari-sulcatâ.*

DIONE.—PLATE I.

THE ERYCINA DIONE. Shell somewhat cordately ovate, very inequilateral, rather thick, fawn-brown, stained with orange-red towards the margin, interruptedly rayed with chocolate-brown, concentrically linearly grooved throughout.

Venus Erycina, Linnæus, Syst. Nat. p. 1131.

Cytherea Erycina, Lamarck.

Chione Erycina, Gray.

Dione Erycina, Deshayes.

Hab. Indian Ocean.

This very common species is quite remarkable for the richness and brilliancy of its colouring.

Species 4. (Fig. a, b, Mus. Cuming.)

DIONE CHINENSIS. *Dion. testâ suboblique ovatâ, posticè subattenuatâ, depressâ, spadiceâ, violaceo vel fuscescente variè radiatâ et fasciatâ, præsertim versus marginem, latere antico concentricè lineari-sulcato.*

THE CHINA DIONE. Shell rather obliquely ovate, posteriorly somewhat attenuated, depressed, fawn-coloured, variously rayed and banded with violet or light-brown, especially towards the margin, anterior side concentrically linearly grooved.

Venus Chinensis, Chemnitz, Conch. vol. ii. p. 227. pl. 202. f. 1976.

Cytherea Sinensis, Sowerby.

Hab. China Seas; New Holland.

Very closely allied to *D. festiva*, but more depressed and more attenuated posteriorly.

Species 5. (Mus. Cuming.)

DIONE LILACINA. *Dion. testâ subcordato-ovatâ, valde inæquilaterali, posticè subattenuatâ, spadiceo-fuscescente, obscurè lineari-radiatâ, versus marginem lilacinâ, concentricè undique lineari-sulcatâ, costis intermediis convexiusculis.*

THE LILAC DIONE. Shell somewhat cordately ovate, very inequilateral, posteriorly rather attenuated, fawn-brown, obscurely linearly rayed, stained towards the margin with lilac, concentrically linearly grooved throughout, the intermediate ribs rather convex.

Cytherea lilacina, Lamarck, Anim. sans vert. vol. vi. p. 303.

Chione lilacina, Gray.

Dione lilacina, Deshayes.

Hab. Australia.

Coloured towards the margin with a very peculiar tone of lilac.



6 a.



6 b.



6 c.



7.



8 a.



8 b.



9

DIONE.

PLATE II.

Species 6. (Fig. 6 a, Mus. Cuming.)

DIONE SEMISULCATA. *Dion. testâ suboblongo-ovatâ, gibbosiusculâ, lacteâ, violaceo-cinereo variegatâ, latere postico subattenuato, lævigato, antico rotundato, concentricè regulariter sulcato.*

THE HALF-GROOVED DIONE. Shell rather oblong-ovate, somewhat gibbous, cream-coloured, variegated with violet-ash, posterior side rather attenuated, smooth, anterior rounded, concentrically regularly grooved.

Cytherea semisulcata, Sowerby, Thes. Conch. p. 624. pl. 131. f. 82.

Dione florida, var., Deshayes.

Hab. Australia.

M. Deshayes considers this species a variety of *D. florida*. If so, it is a very distinct form of it, more gibbous, and attenuated posteriorly.

It will be observed that the numbering of the figures in this plate, owing to some confusion of the lithographer and carelessness of the author, does not agree with the numbering of the species.

Species 7. (Fig. 6 b, Mus. Cuming.)

DIONE HAGENOWI. *Dion. testâ subtrigono-cordatâ, compressâ, fulvo-spadiceâ, fuscescente tinctâ et interruptè radiatâ, concentricè plicato-sulcatâ, latere postico sub-obliquo, violaceo marginato, lunulâ et areâ ligamenti castaneo strigatis.*

HAGENOW'S DIONE. Shell somewhat triangularly cordate, compressed, fulvous-fawn, tinged and interruptedly rayed with pale-brown, concentrically plicately grooved, posterior side rather oblique, edged with violet, lunule and ligamentary area streaked with chestnut.

Cytherea Hagenowi, Dunker, Zeitschr. für Malak. 1848, p. 184.

Cytherea spathulata, Sowerby.

Dione Hagenowi, Gray.

Hab. Red Sea.

The most characteristic features in the painting of this

species are its dark-violet posterior margin and the bold chestnut zigzag streaks of the lunule and posterior area.

Species 8. (Fig. 6 c and 8 a, b, Mus. Cuming.)

DIONE IMPAR. *Dion. testâ oblongo-ovali, crassiusculâ, gibbosâ, lævigatâ, nitente, albidâ, violaceo-cinereo aut fusco variè radiatâ, fasciatâ et maculatâ, latere postico lævigato, antico concentricè regulariter sulcato.*

THE UNEVEN DIONE. Shell oblong-oval, rather thick, gibbous, smooth, shining, whitish, variously rayed, banded, and spotted with violet-ash or brown, posterior side smooth, anterior concentrically regularly grooved.

Cytherea impar, Lamarck, Anim. sans vert. vol. vi. p. 304.

Dione impar, Deshayes.

Hab. Swan River.

This very beautifully painted porcelain-like shell belongs to the same well-marked type as *D. florida* and *semisulcata*, in which the shell is prominently concentrically grooved on the anterior side only.

Species 9. (Fig. 7 and 9, Mus. Cuming.)

DIONE COSTATA. *Dion. testâ ovatâ, versus marginem sub-productâ, turgidâ, albidâ vel spadiceâ, fuscescente interruptè exiliter radiatâ, ad marginem sæpe nigricante-violaceâ, concentricè undique densè plicato-costatâ.*

THE RIBBED DIONE. Shell ovate, somewhat produced towards the margin, swollen, white or fawn-colour, faintly interruptedly rayed with light-brown, often dark-violet at the margin, concentrically densely plicately ribbed throughout.

Venus costata, Chemnitz, Conch. Cab. vol. ii. pl. 226. pl. 202. f. 1975.

Dione costata, Deshayes.

Hab. Philippine Islands; Cuming. Swan River.

This very fine species partakes very much of the characters of the old *Dione Erycina*, but they are perfectly distinct.



10.



11.a.



11.b.



12.

DIONE.

PLATE III.

Species 10. (Mus. Cuming.)

DIONE SQUALIDA. *Dion. testâ subcordatâ, posticè subattenuatâ, infra epidermide corneâ nitente sordidè fuscâ, exilissimè radiatâ, versus umbones marmoratâ et undato-maculatâ, lævigatâ.*

THE UGLY DIONE. Shell subcordate, slightly attenuated posteriorly, dull fuscous beneath a shining horny epidermis, very faintly radiated, mottled, and wave-blotted towards the umboes, smooth.

Cytherea squalida, Sowerby, Pro. Zool. Soc. 1835, p. 23.

Venus squalida, D'Orbigny.

Cytherea biradiata, Sowerby.

Cytherea elegans, Koch.

Hab. California; Philippine Islands.

The mottled pattern of this otherwise dull species is very characteristic.

Species 11. (Fig. a, b, Mus. Cuming.)

DIONE MACULATA. *Dion. testâ ovali, compressiusculâ, posticè obliquè subproductâ, spadiceo-albâ, violaceo-fusco maculatâ vel undatâ, epidermide nitente corneâ indulâ.*

THE SPOTTED DIONE. Shell oval, rather compressed, posteriorly obliquely somewhat produced, fawn-white, blotched or waved with violet-brown, enveloped with a shining horny epidermis.

Pectunculus maculatus, Lister, Conch. p. 270. f. 106.

Le Jouret, Adamson.

Venus maculata, Linnæus.

Cytherea maculata, Lamarck.

Dione maculata, Gray.

Hab. West Indies; Brazil; Pacific Ocean.

An ancient and well-known species, widely distributed in both hemispheres.

Species 12. (Mus. Cuming.)

DIONE AURANTIA. *Dion. testâ globoso-ovatâ, crassâ, turgidâ, carneo-aurantiâ, epidermide lævigatâ corneâ indulâ, concentricè obscurè plicato-striatâ, posticè vix angulatâ.*

THE ORANGE DIONE. Shell globosely ovate, thick, swollen, flesh-tinged orange, covered with a smooth horny epidermis, concentrically obscurely plicately striated, scarcely angled on the posterior side.

Chione aurantia, Gray, Analyst, vol. viii. p. 305.

Cytherea aurantiaca, Sowerby.

Dione aurantia, Deshayes.

Hab. Acapulco, South America.

The delicate flesh-orange colouring of this fine species is reduced to a more or less dull horny hue by the overlying epidermis. It is of a bold globose form, indistinctly angled on the posterior side.

August, 1863.

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13.



14. a.



14. b.



15.

DIONE.

PLATE IV.

Species 13. (Mus. nob.)

DIONE CHIONE. *Dion. testā ovali, solidā, compressiusculā, concentricè plicato-striatā, fulvo-spadiceā, fusco-rubente obscurè fasciatā et maculato-radiatā, margine dorsali subelevato.*

THE CHIONE DIONE. Shell oval, solid, rather compressed, concentrically plicately striated, fulvous-fawn, obscurely banded and radiately spotted with fulvous-red, dorsal margin rather elevated.

Venus Chione, Linnæus, Syst. Nat. 12th edit. p. 1131.

Pectunculus glaber, Da Costa.

Cytherea Chione, Lamarck.

Chione vulgaris, Gray.

Hab. European and Mediterranean Seas.

This fine species is a very conspicuous object among British bivalves; it is, however, comparatively rare on our shores. It is abundant in the Mediterranean.

Species 14. (Fig. a, b, Mus. Cuming.)

DIONE GRATA. *Dion. testā transversè ovatā, subpectinatā, flavescence-lacteā, violaceo-castaneo radiatā et undatā, concentricè crebricostatā, lunulā et areā ligamenti castaneo strigatis.*

THE PRETTY DIONE. Shell transversely ovate, somewhat pectinate, yellowish cream-colour, rayed and

waved with violet-chestnut, concentrically closely ribbed, lunule and ligamentary area streaked with chestnut.

Cytherea pectoralis, Sowerby (not of Lamarck), Thes. Conch. p. 625. pl. 130. f. 75.

Dione grata, Deshayes, Cat. Conch. Brit. Mus. p. 62.

Hab. Philippine Islands; Cuming.

A well-marked beautifully painted species.

Species 15. (Mus. Cuming.)

DIONE NOBILIS. *Dion. testā orbiculari-cordatā, crassā, candidā, epidermide tenui corneā nitente indutā, concentricè plicato-costatā, costis valde irregularibus, corrugatis, hic illic intermissis, non parallelis.*

THE NOBLE DIONE. Shell orbicularly heart-shaped, thick, white, covered with a thin shining horny epidermis, concentrically plicately ribbed, ribs very irregular, wrinkled, here and there intermitted, not parallel.

Cytherea nobilis, Reeve, Pro. Zool. Soc. 1849, part ii. p. 126.

Dione nobilis, Deshayes.

Hab. California.

This fine shell has very much the form of an *Artemis*. The sculpture is a mass of concentric wrinkles.

August, 1863.

NOTES

Page 17

These notes are taken from the original manuscript of the author, and are intended to be used as a guide to the reader.

The first part of the manuscript is devoted to a description of the general principles of the subject, and is intended to be used as a guide to the reader.

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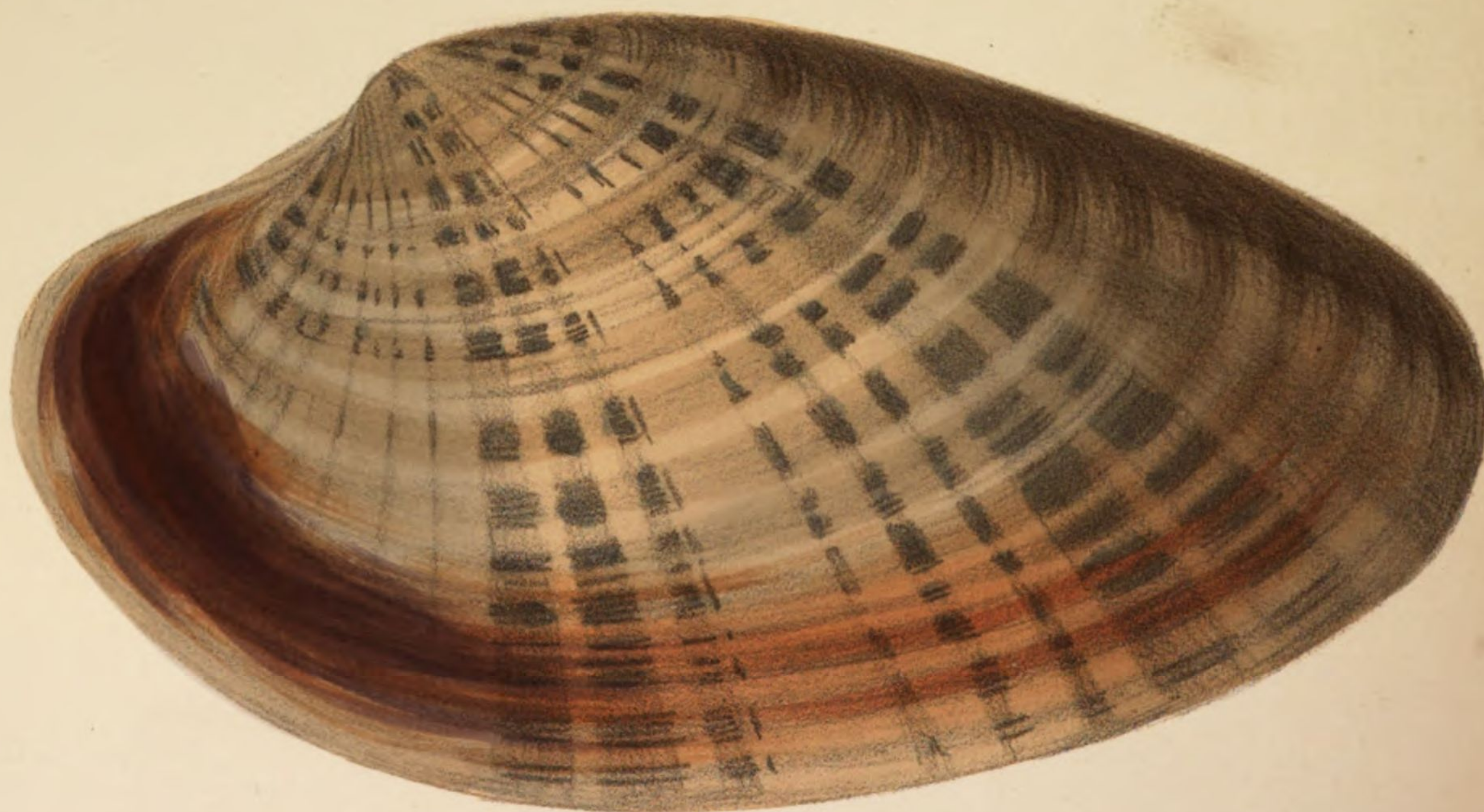
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16.a.



16.b.



17.



18.



19.

DIONE.

PLATE V.

Species 16. (Fig. *a, b*, Mus. Cuming.)

DIONE VULNERATA. *Dion. testâ orbiculari, lacteâ, aurantio-fusco tinctâ tenuiradiatâ et marmoratâ, intense violaceo concentricè lineatâ, undique concentricè plicato-striatâ.*

THE WOUNDED DIONE. Shell orbicular, cream-colour, tinged, finely rayed and mottled with orange-brown, concentrically lineated with deep violet, concentrically plicately striated throughout.

Cytherea vulnerata, Broderip, Pro. Zool. Soc. 1835, p. 46.

Dione vulnerata, Deshayes.

Hab. Real Llejos, Central America.

An exquisitely-painted shell, delicately pencilled with orange-brown and violet on a ground of warm cream-colour.

Species 17. (Mus. Cuming.)

DIONE GIGANTEA. *Dion. testâ oblongo-ovali, compressâ, spadiceo-albâ, cæruleo-griseo radiatâ, epidermide corneâ castaneâ versus marginem indutâ, lævigatâ, vel concentricè plicato-striatâ.*

THE GIGANTIC DIONE. Shell oblong-oval, compressed, fawn-white, rayed with blue-grey, covered towards the margin with a chestnut horny epidermis, smooth, or concentrically plicately striated.

Venus gigantea, Chemnitz, Conch. Cab. vol. x. p. 354. pl. 171. f. 1661.

Cytherea gigantea, Lamarck.

Dione gigantea, Deshayes.

Hab. Bay of Mexico.

This well-known species is one of the few shells in which the radiated painting is of a blue-grey colour. To-

wards the margin it is covered by a thin chestnut horny epidermis.

Species 18. (Mus. Cuming.)

DIONE RUTILA. *Dion. testâ subquadrato-ovatâ, crassâ, fulvo-lacteâ, rufo-fusco copiosè interruptè radiatâ, undique concentricè plicato-striatâ, lunulâ et areâ ligamenti conspicuè undulato-maculatis.*

THE RUDDY DIONE. Shell somewhat squarely ovate, thick, fulvous cream-colour, copiously interruptedly rayed with red-brown, concentrically plicately striated throughout, lunule and ligamentary area conspicuously wave-blotched.

Cytherea rutila, Sowerby, Thes. Conch. p. 743. pl. 163. f. 205.

Dione rutila, Deshayes.

Hab. — ?

A compressed solid shell, conspicuously painted, especially about the margin of the lunule and ligamentary area.

Species 19. (Mus. Cuming.)

DIONE STRIATA. *Dion. testâ globoso-cordatâ, tumidâ, flavescente, posticè fumeo-violaceo abruptè radiatâ, concentricè densè plicato-striatâ.*

THE STRIATED DIONE. Shell globosely heart-shaped, swollen, yellowish, posteriorly abruptly rayed with smoky violet, concentrically densely plicately striated.

Chione striata, Gray, Analyst, vol. viii. p. 306.

Dione citrina, var. Deshayes.

Hab. Philippine Islands; Cuming.

Compared with *D. citrina* this species is of a more globose cordate form, less solid, and more swollen.

August, 1863.

DIONE

PLATE V.

Figure 1. (Continued from Plate IV.)
The specimen is a small, dark, irregularly shaped object, possibly a fragment of a larger body. It is shown in a lateral view, with the dorsal side facing upwards. The surface appears smooth but with some internal structure visible. The overall shape is somewhat elongated and tapers slightly towards one end.

Figure 2. (Continued from Plate IV.)
This figure shows a similar specimen to Figure 1, but from a different perspective, possibly a ventral or oblique view. It highlights the underside of the object, showing some internal features and the shape of the base. The object is again small and dark, with a somewhat irregular outline.

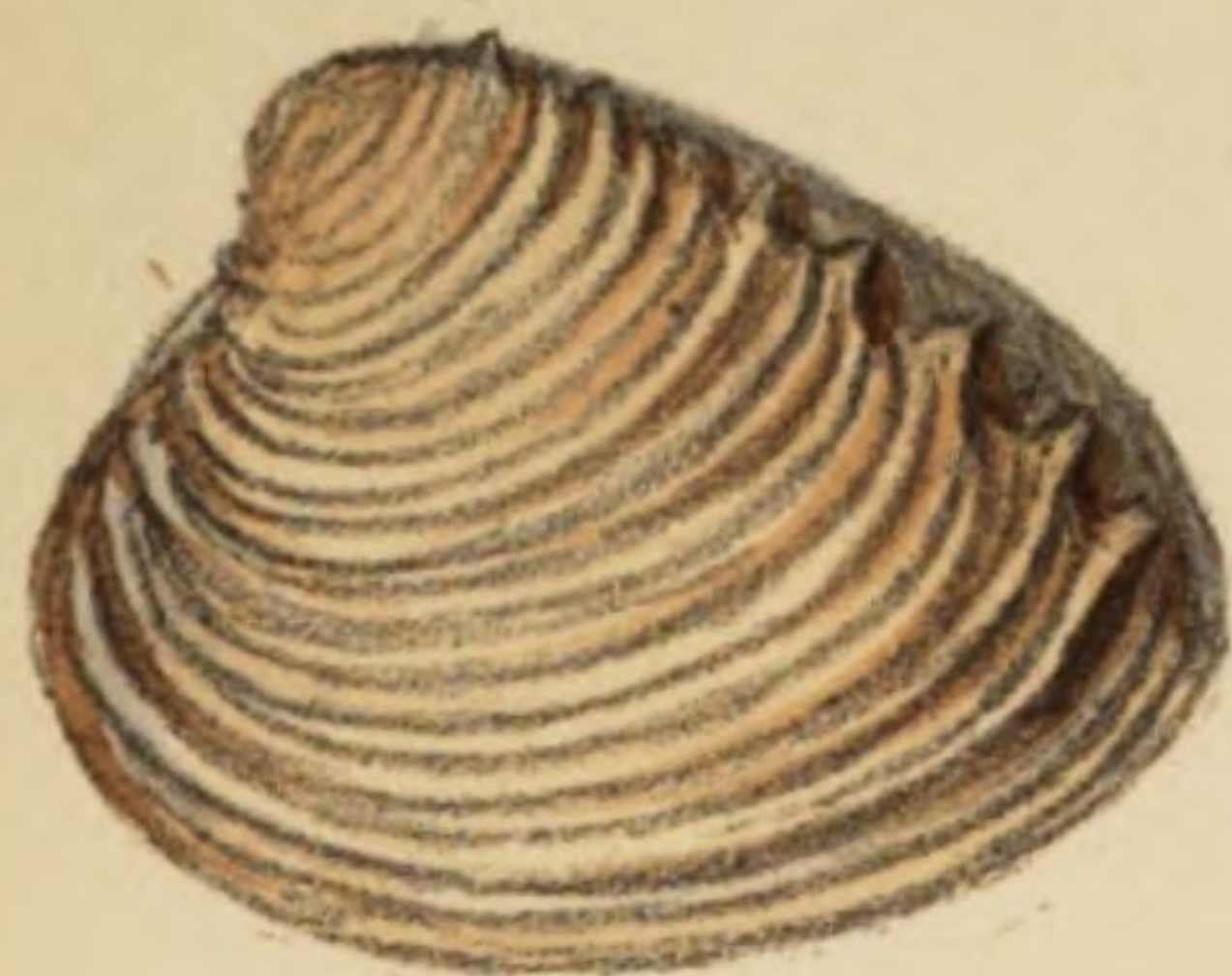
Figure 3. (Continued from Plate IV.)
The specimen in this figure is shown from a dorsal view, emphasizing the top surface. It appears as a dark, somewhat circular or oval shape with some internal markings. The edges are slightly irregular, and the overall appearance is that of a small, solid object.

Figure 4. (Continued from Plate IV.)
This figure displays a specimen from a ventral view, showing the underside. The shape is roughly oval, with some internal structure visible through the translucent material. The edges are smooth but show some slight undulations.

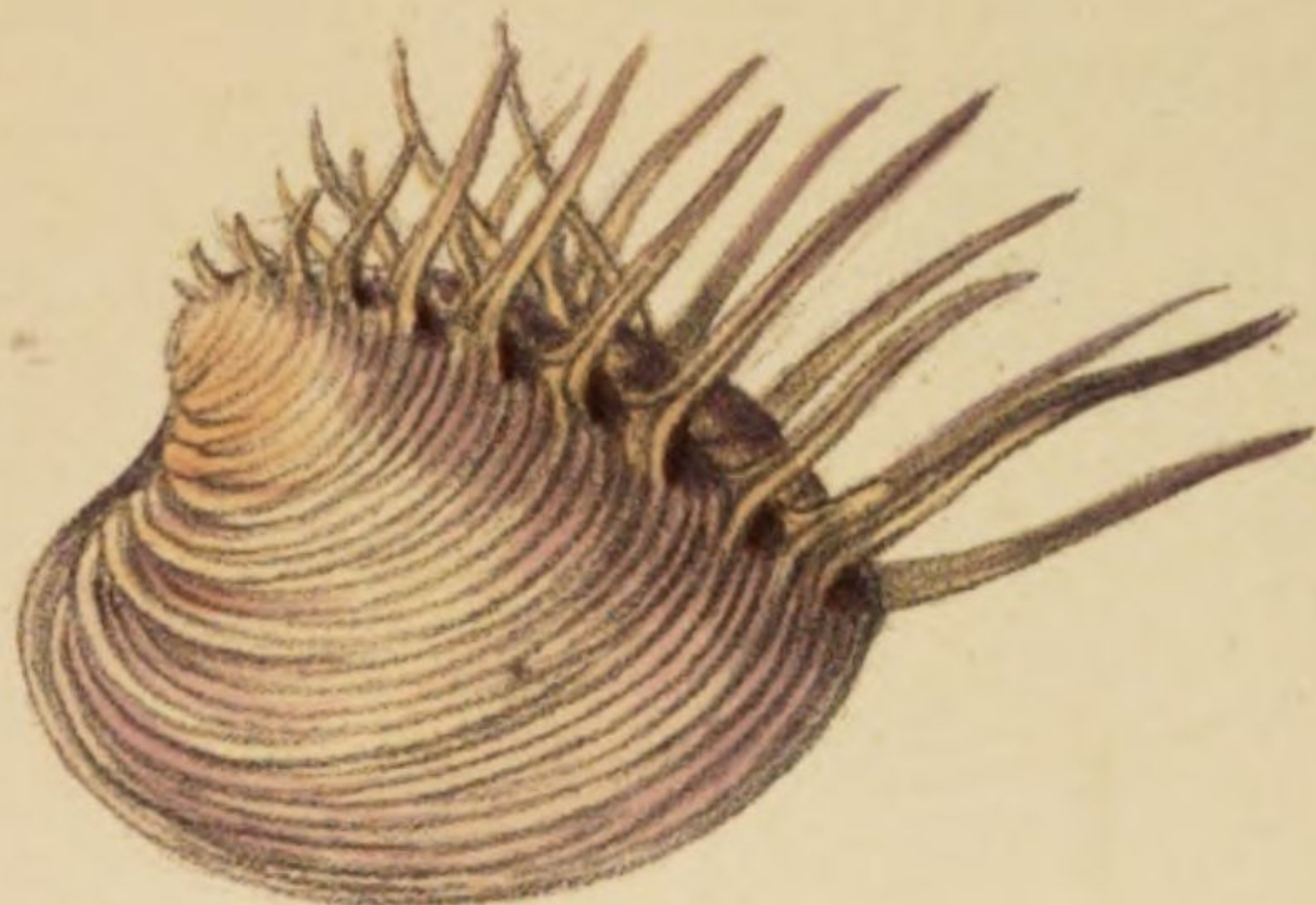
Figure 5. (Continued from Plate IV.)
The specimen here is shown in a lateral view, similar to Figure 1. It is a dark, elongated object with a slightly curved profile. The surface is mostly smooth, with some minor texture visible.

Figure 6. (Continued from Plate IV.)
This figure shows a specimen from a dorsal perspective. It is a dark, somewhat circular object with some internal features. The edges are slightly irregular, and the overall shape is compact.

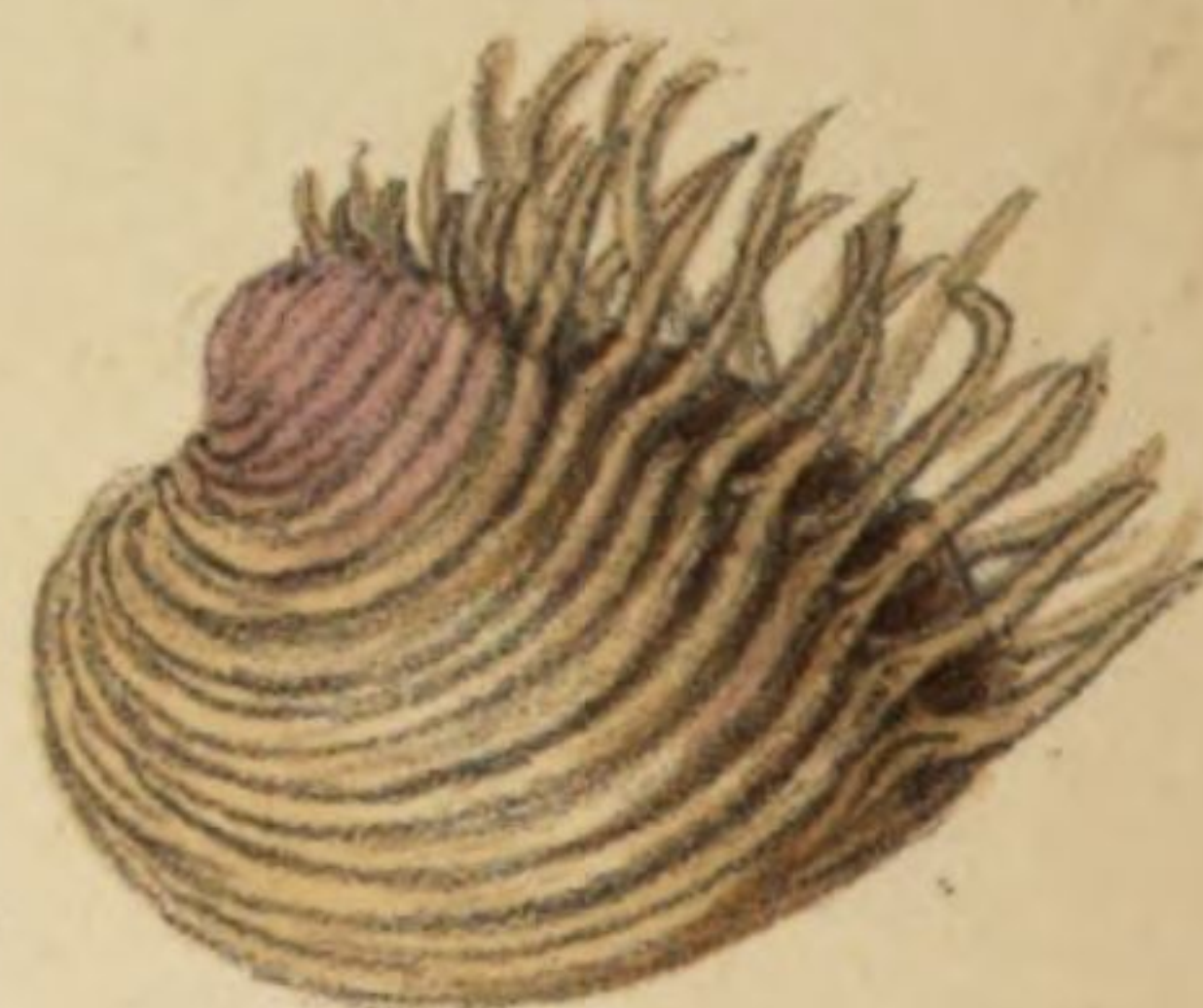
PLATE VI.



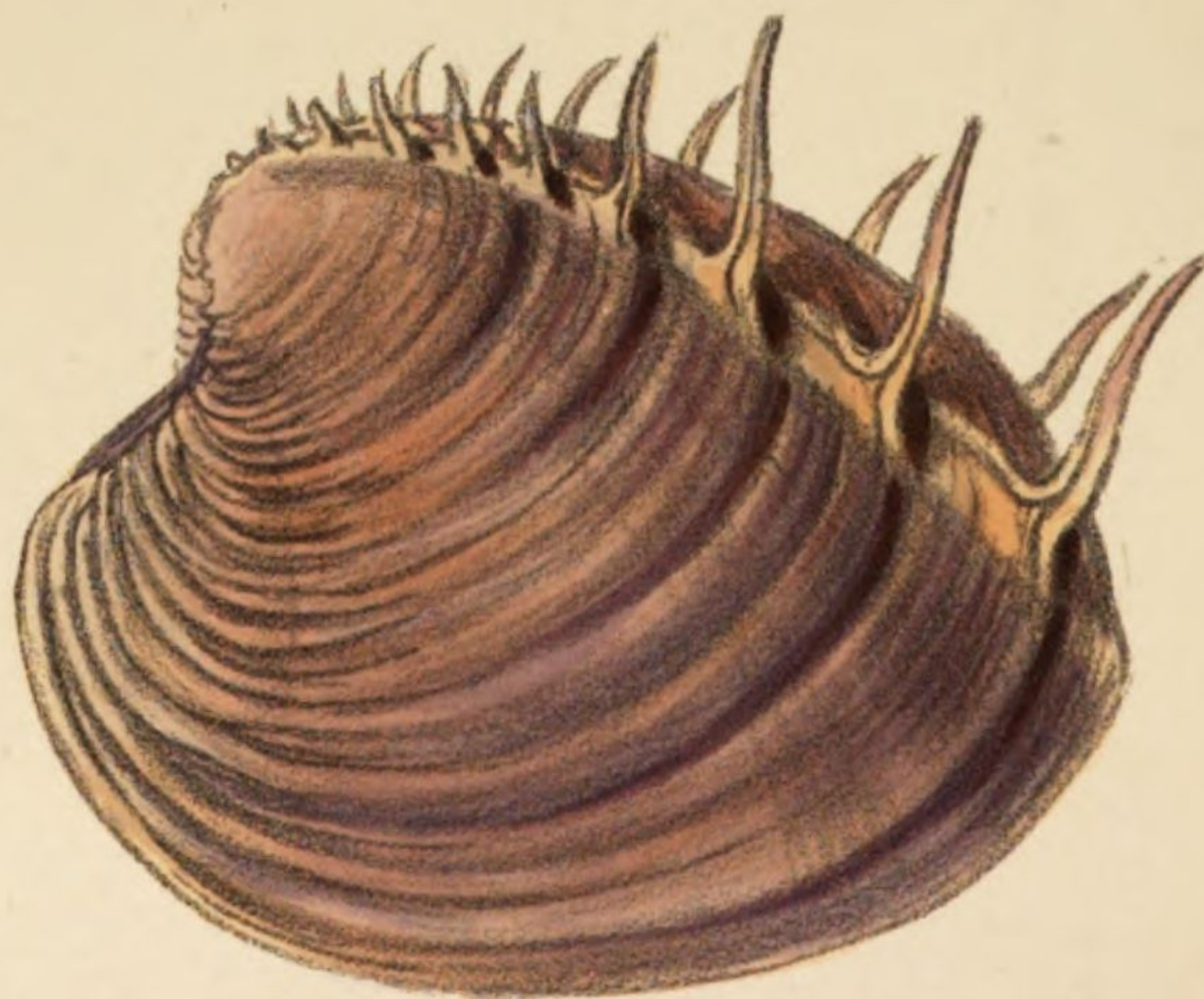
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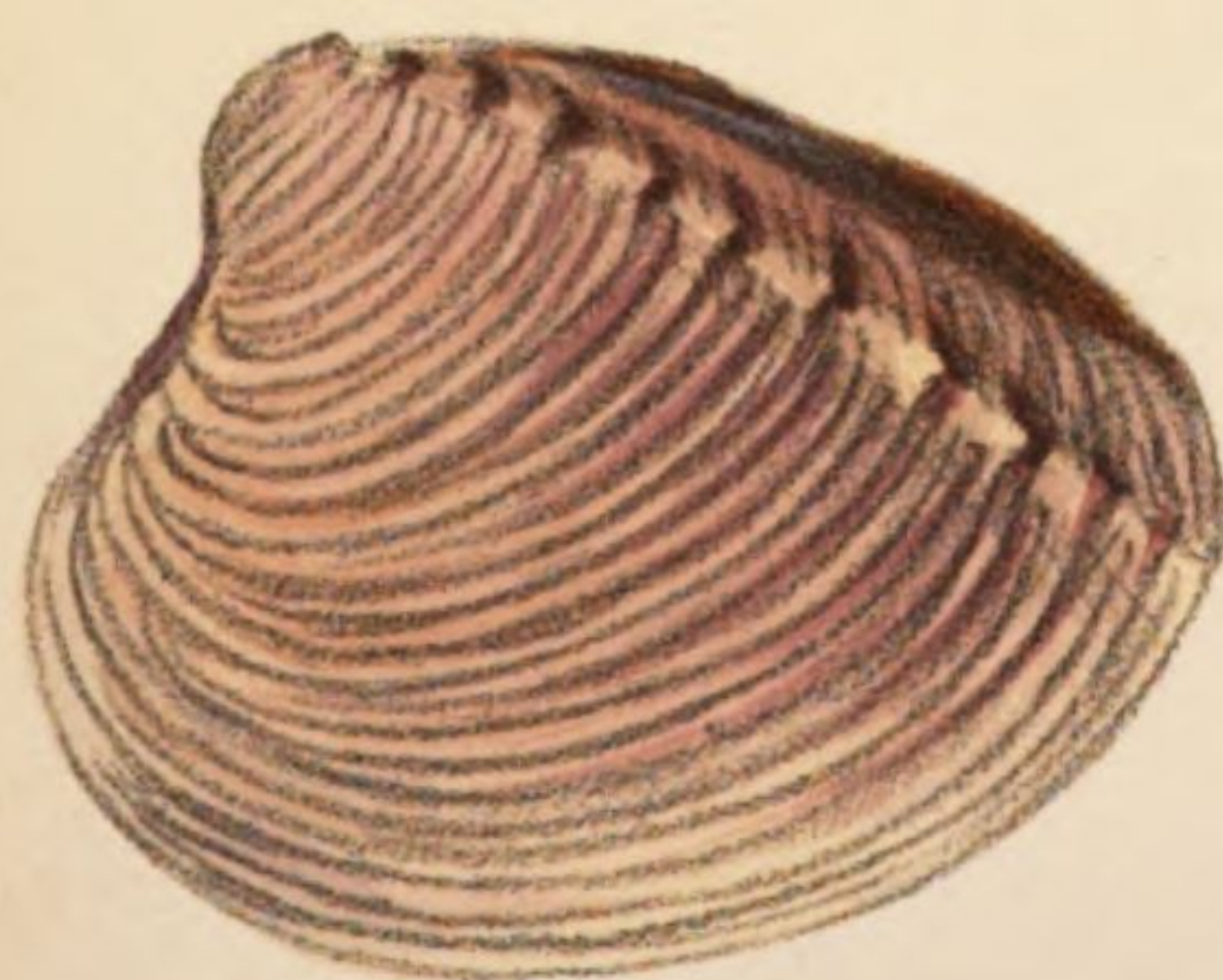
20.a.



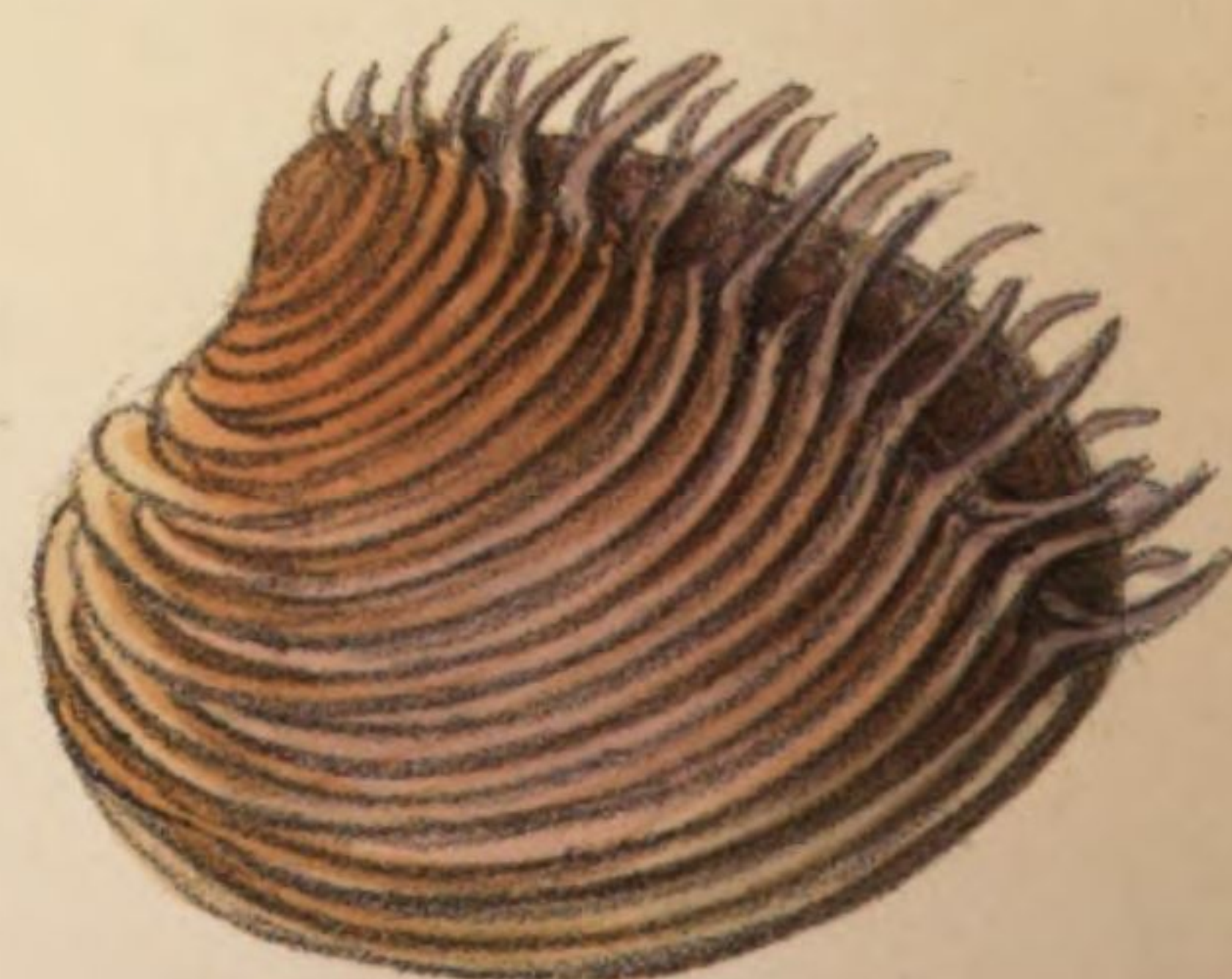
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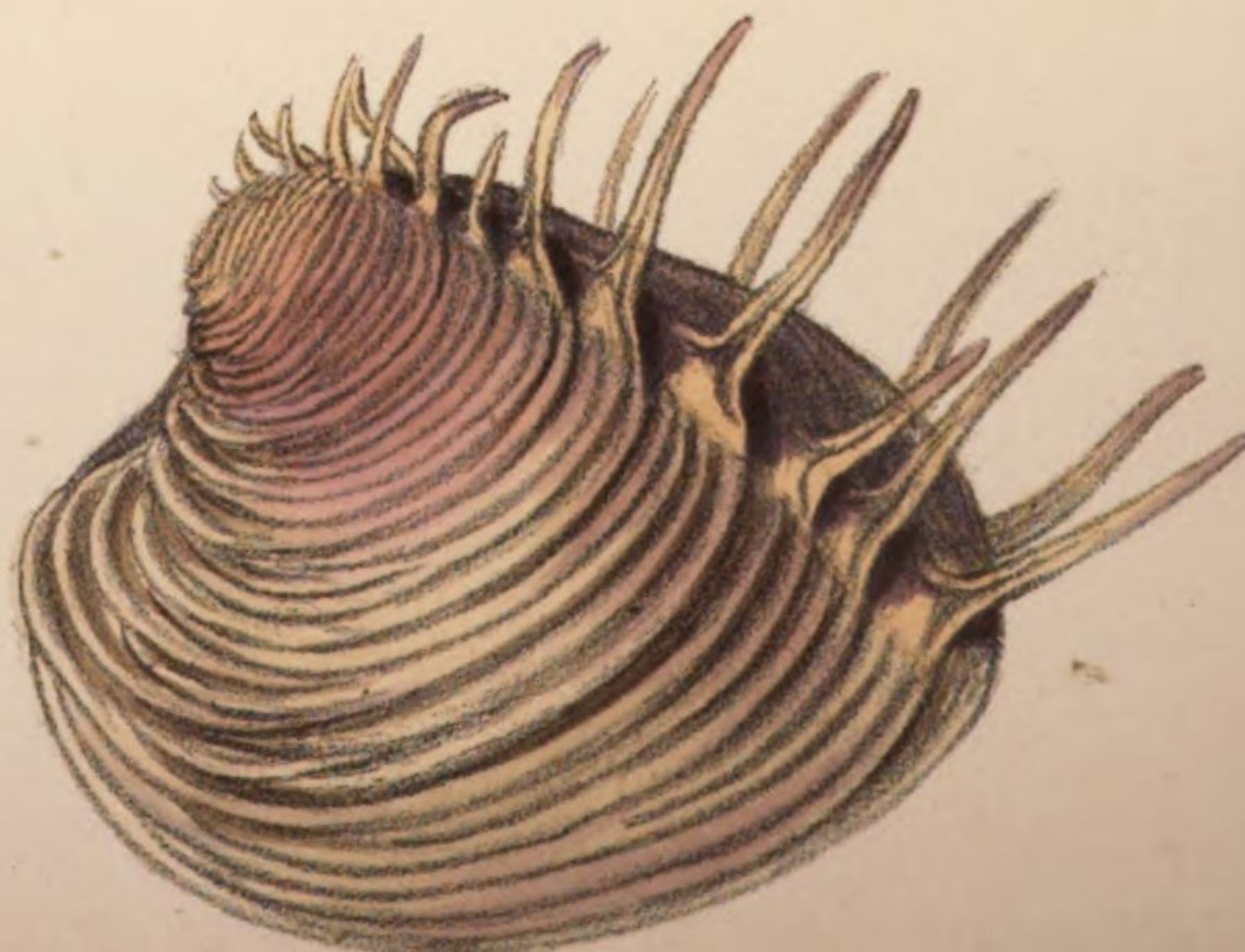
20.b.



23.



24.



20.c.

DIONE.

PLATE VI.

Species 20. (Fig. a, b, c, Mus. Cuming.)

DIONE SEMILAMELLOSA. *Dion. testâ subtrigono-ovatâ, ventricosiusculâ, albâ, purpureo-violaceo plus minus tinctâ, concentricè corrugato-liratâ, liris ad latus anticum lamellatis, per marginem posticum hic illic longissimè spinosis, spinis interdum biserialibus.*

THE HALF-LAMELLATED DIONE. Shell somewhat triangularly ovate, rather ventricose, white, more or less tinged with purple-violet, concentrically wrinkle-ridged, ridges lamellated on the anterior side, here and there very long-spined along the posterior margin, spines sometimes in two rows.

Cytherea lamellosa, Gaudichaud; Delessert, Recq. de Coq. pl. 19. f. 2.

Cytherea lupanaria, Lesson.

Venus lupanaria, D'Orbigny.

Dione lupanaria, Deshayes.

Hab. Central America.

For reasons which are obvious I think it better to abandon the foul name given to this lovely species by Lesson.

Species 21. (Mus. Cuming.)

DIONE BREVISPINATA. *Dion. testâ subtrigono-ovatâ, ventricosiusculâ, albâ, concentricè erecto-liratâ, liris ad latus anticum lamellatis, per marginem posticum brevissimis spinatis.*

THE SHORT-SPINED DIONE. Shell somewhat triangularly ovate, rather ventricose, white, concentrically erectly ridged, ridges lamellated on the anterior side, short-spined along the posterior margin.

Cytherea brevispina, Sowerby, Thes. Conch. p. 632. pl. 132. f. 109.

Hab. California.

No actual spines are developed on the posterior margin of this species.

Species 22. (Mus. Cuming.)

DIONE MULTISPINOSA. *Dion. testâ subtrigono-ovatâ, ventricosiusculâ, albâ, purpurascente-violaceo interdum pallidè tinctâ, concentricè lamellato-liratâ, liris ad latus anticum lamellatioribus, latere postico spinis tenuibus copiosè biserialim munito.*

THE MANY-SPINED DIONE. Shell somewhat triangularly ovate, rather ventricose, white, sometimes faintly tinged with purple-violet, concentrically lamellately

ridged, ridges more lamellate on the anterior side, posterior furnished with a double row of numerous slender spines.

Cytherea multispinosa, Sowerby, Thes. Conch. p. 632. pl. 132. f. 112.

Hab. Peru.

A small form of this peculiar type, in which the concentric ridges are more thinly lamellate, and the spines more slender and numerous.

Species 23. (Mus. Cuming.)

DIONE VENERIS. *Dion. testâ subtrigono-ovatâ, ventricosiusculâ, albâ, purpurascente-violaceo plus minus tinctâ, concentricè lamellato-liratâ, liris ad latus anticum lamellatioribus, per marginem posticum modicè spinatis.*

VENUS'S DIONE. Shell somewhat triangularly ovate, rather ventricose, white, more or less tinged with purple-violet, concentrically lamellately ridged, ridges more lamellate on the anterior side, moderately spined along the posterior margin.

Concha Veneris, D'Argenville, Conch. pl. 21. f. 1.

Venus Dione, Linnæus.

Cytherea Dione, Lamarck.

Dione Veneris, Deshayes.

Hab. West Indies and Central America.

The concentric sculpture in this form of the group is not obtusely wrinkled, as in *D. semilamellosa*, but erect and lamellate throughout; and the spines are only moderately developed.

Species 24. (Mus. Cuming.)

DIONE EXSPINATA. *Dion. testâ subtrigono-ovatâ, ventricosiusculâ, albâ, purpurascente-violaceo plus minus tinctâ, concentricè corrugato-liratâ, liris ad latus anticum lamellatis, per marginem posticum muricato-tuberculatis.*

THE SPINELESS DIONE. Shell somewhat triangularly ovate, rather ventricose, white, more or less tinged with purple-violet, concentrically wrinkle-ridged, ridges lamellate on the anterior side, prickly tubercled along the posterior margin.

Hab. Central America.

If the other alleged species of this Plate are distinct from one another, so also is this. Excepting that the spines are wanting, it comes nearest to *D. semilamellosa*.



25.b.



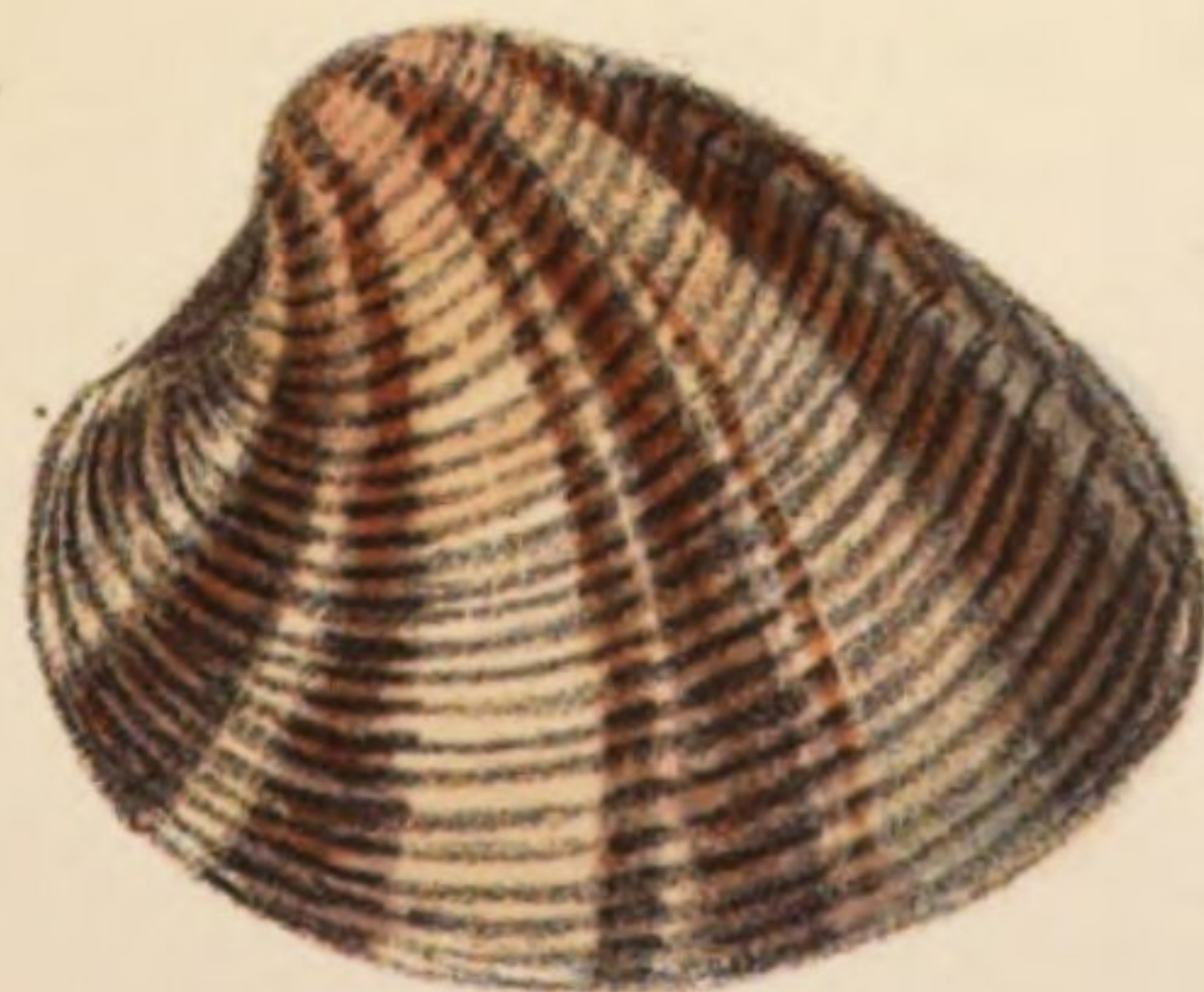
25.a.



26.



27.



28.a.



28.b.



29.

DIONE.

PLATE VII.

Species 25. (Fig. *a, b*, Mus. Cuming.)

DIONE CIRCINATA. *Dion. testâ rotundato-ovatâ, interdum subtrigonâ, rufescente-purpureâ, nonnunquam radiatâ vel albâ, liris erectis concentricis undique densè funiculatâ, liris ad latera laminatis.*

THE ROUNDED DIONE. Shell rotundately ovate, sometimes rather triangular, reddish-purple, sometimes rayed or white, densely corded throughout with erect concentric ridges, ridges laminate at the sides.

Venus circinata, Born, Test. Mus. p. 61. pl. 4. f. 8.

Venus rubra, Gmelin.

Venus Guineensis, Gmelin.

Cytherea Guineensis, Lamarck.

Cytherea alternata, Broderip.

Cytherea circinata, Sowerby.

Dione circinata, Deshayes.

Hab. Mazatlan.

Of a uniform reddish-purple throughout, rusty towards the margin.

Species 26. (Mus. Cuming.)

DIONE RUFESCENS. *Dion. testâ trigono-ovatâ, suboblongâ, crassâ, ventricosâ, fulvescente-castaneâ, ad lunulam et aream ligamenti rufescente, concentricè densè striatâ, versus umbones lævigatâ.*

THE REDDISH DIONE. Shell triangularly ovate, rather oblong, thick, ventricose, fulvous-chestnut, reddish at the lunule and ligamentary area, concentrically closely striated, smooth towards the umboes.

Dione rufescens, Deshayes, Pro. Zool. Soc. 1853, p. 2.

Cat. Mus. Brit. Conch. p. 67.

Hab. Philippine Islands; Cuming.

A stout shell of a peculiar fulvous-chestnut colour, reddish at the lunule and ligamentary area, with somewhat of the aspect of a *Crassatella*.

Species 27. (Mus. Cuming.)

DIONE UMBONELLA. *Dion. testâ cordato-ovatâ, crassâ, ventricosâ, nitente violaceâ, versus umbones pallidiore,*

lævigatâ, latere antico regulariter sulcato, sulcis linearibus, subdistantibus.

THE UMBOED DIONE. Shell cordately ovate, thick, ventricose, shining-violet, paler towards the umboes, smooth, anterior side regularly grooved, grooves linear, rather distant.

Cytherea umbonella, Lamarck, Anim. sans vert. vol. vi. p. 319.

Cytherea nivea, Hanley.

Dione umbonella, Deshayes.

Hab. Red Sea; Brazil.

In this beautifully-tinted shell the anterior linear grooves are engraved with great regularity.

Fig. 28 *a, b* (Mus. Cuming).

The two shells here figured are the types of Mr. Broderip's *Cytherea alternata*. M. Deshayes refers them in his monograph of the *Veneridæ*, in the British Museum Catalogue, to *D. circinata*, and on comparing them with that species the affinity is obvious. They represent a variety in which the reddish-purple is either rayed or altogether wanting.

Species 29. (Mus. Cuming.)

DIONE ROSEA. *Dion. testâ obliquè cordatâ, compressâ, roseo-purpurascente, obscurè fasciatâ, concentricè densè lirâtâ, liris ad latus anticum hic illic lamellatis, ad posticum per marginem muricato-lamellatis, vix spinosis.*

THE ROSE DIONE. Shell obliquely heart-shaped, compressed, rose-purple, obscurely banded, concentrically closely ridged, ridges here and there lamellated on the anterior side, on the posterior prickly lamellated along the the margin, scarcely spined.

Cytherea rosea, Broderip and Sowerby, Zool. Journ. vol. iv. p. 364.

Cytherea lepida, Chenu.

Dione rosea, Deshayes.

Hab. Panama.

This species partakes largely of the characters of the group represented in the preceding Plate.

DOZE.



30.



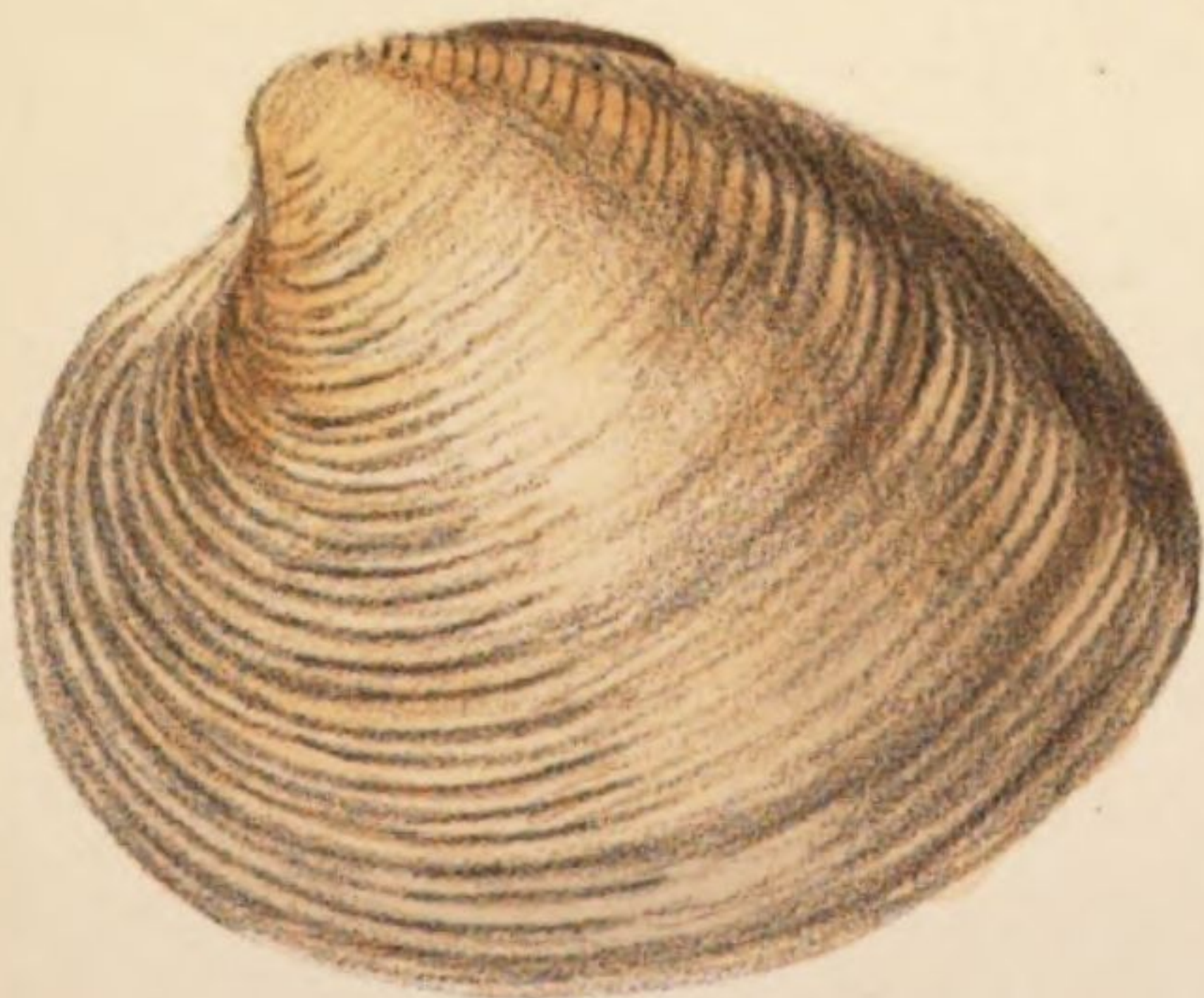
31.a.



31.b.



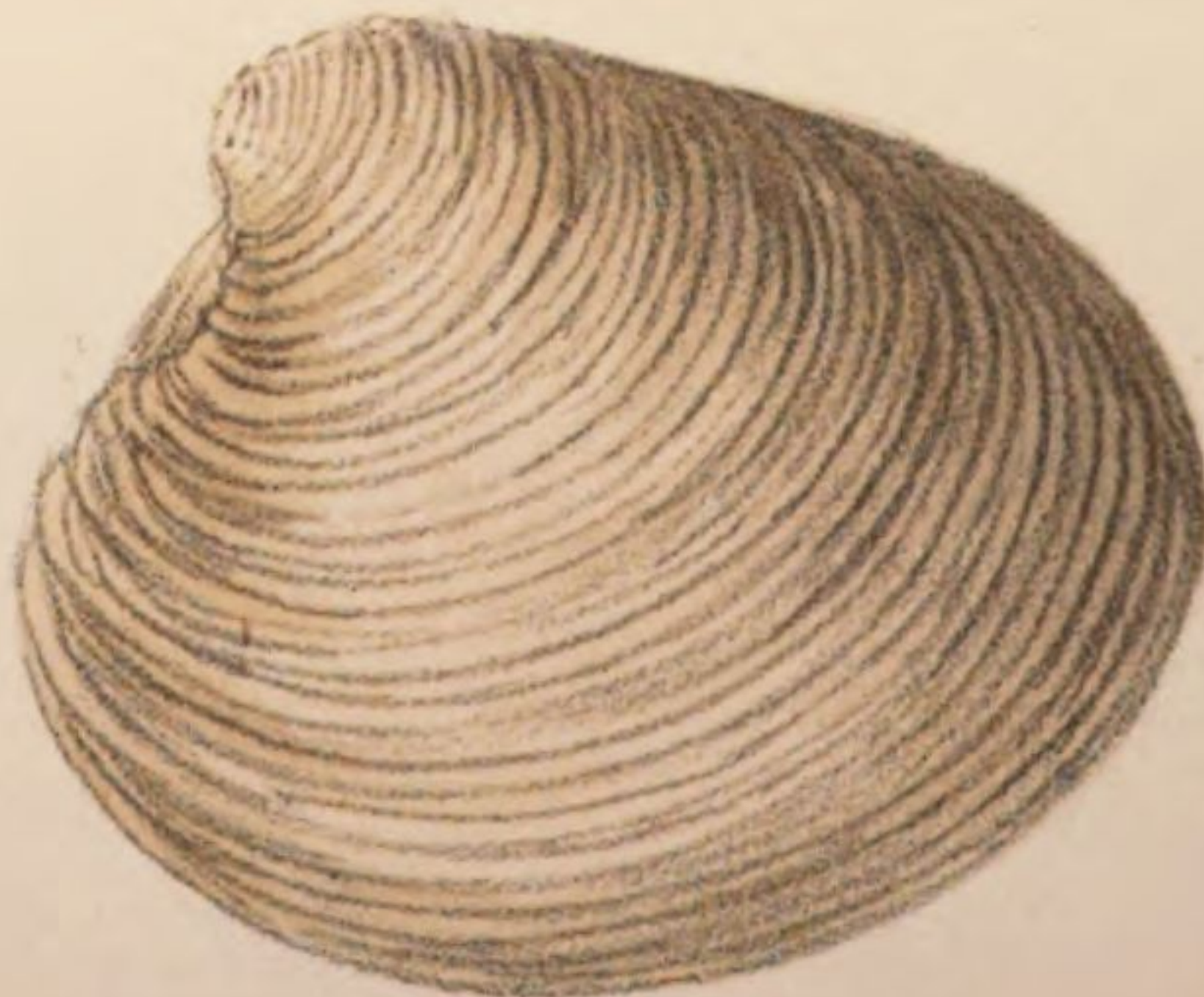
32.



33.a.



33.b.



34.

DIONE.

PLATE VIII.

Species 30. (Mus. Cuming.)

DIONE AFFINIS. *Dion. testā ovato-oblongā, obtusè triangulari, subcompressā, albā, purpureo-violaceo radiatā, lunulā et areā ligamenti violaceis, concentricè liratā, liris subreflexis, hic illic corrugatis, latere postico flexuoso.*

THE ALLIED DIONE. Shell ovately oblong, obtusely triangular, rather compressed, white, rayed with purple-violet, lunule and ligamentary area violet, concentrically ridged, ridges slightly reflected, here and there wrinkled, posterior side flexuous.

Cytherea affinis, Broderip, Pro. Zool. Soc. 1825, p. 45.

Venus Paytensis, D'Orbigny.

Dione affinis, Deshayes.

Hab. Xipixapi, West Columbia; Cuming.

Scarcely distinguishable from the next species except in being rather more flexuously compressed on the posterior side, and in having the lunule and ligamentary area violet.

Species 31. (Fig. a, b, Mus. Cuming.)

DIONE CONCINNA. *Dion. testā oblongo-cordatā, subcompressā, castaneo-rufā vel albā, purpureo-roseo radiatā, concentricè liratā, liris subreflexis, hic illic corrugatis, latere postico subflexuoso.*

THE ELEGANT DIONE. Shell oblong heart-shaped, rather compressed, chestnut-red or white, rayed with purple rows, concentrically ridged, ridges slightly reflected, here and there wrinkled, posterior side a little flexuous.

Cytherea concinna, Sowerby, Pro. Zool. Soc. 1835, p. 23.

Dione concinna, Deshayes.

Hab. Panama, Mazatlan.

The details of sculpture are precisely the same in this as in the preceding species.

Species 32. (Mus. Cuming.)

DIONE PURPURATA. *Dion. testā rotundato-cordatā, crassā, violaceo-purpureā, pallidè fasciatā, marginibus albis, lævigatā, concentricè irregulariter plicato-sulcatā.*

THE PURPLE DIONE. Shell rotundately heart-shaped,

thick, violet-purple, pale banded, margins white, smooth, concentrically irregularly plicately grooved.

LAMARCK, Anim. sans vert. vol. vi. p. 301.

Hab. — ? *Brasiliensis*.

A fine solid porcelain-like shell, distinguished by a charming tone of colour.

Species 33. (Fig. a, b, Mus. Cuming.)

DIONE UNICOLOR. *Dion. testā trigono-cordatā, subcompressā, crassā, albidā vel castaneo-spadiceā, concentricè liratā, liris subobtusis, hic illic corrugatis, versus latus posticum interdum obsolete.*

THE ONE-COLOURED DIONE. Shell triangularly heart-shaped, rather compressed, thick, whitish or chestnut-bay, concentrically ridged, ridges rather obtuse, here and there wrinkled, sometimes partially obsolete towards the posterior side.

Cytherea unicolor, Sowerby, Pro. Zool. Soc. 1835, p. 23.

Chione badia, Gray.

Cytherea ligula, Anton.

Dione unicolor, Deshayes.

Hab. West Columbia.

There is a tinge of the characteristic chestnut-bay colouring of this species in the pale variety of it.

Species 34. (Mus. Cuming.)

DIONE CYGNUS. *Dion. testā trigono-oblongā, subcordatā, posticè obliquè productā, calcareo-albā, concentricè liris, liris lamellatis, præcipuè ad latus anticum, crenulatis et exasperatis.*

THE SWAN DIONE. Shell triangularly oblong, somewhat heart-shaped, posteriorly obliquely produced, chalk-white, concentrically ridged, ridges lamellate, especially on the anterior side, crenulated, and broken.

Cytherea cygnus, Lamarck, Anim. sans vert. vol. vi. p. 328.

Dione cygnus, Deshayes.

Hab. — ?

A dead-white shell, in which the ridges are finely crenulated, and more or less broken.

August, 1863.

BIONE.

PLATE VII.

Species 20. (Plate 20.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 21. (Plate 21.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 22. (Plate 22.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 23. (Plate 23.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 24. (Plate 24.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 25. (Plate 25.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 26. (Plate 26.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 27. (Plate 27.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 28. (Plate 28.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 29. (Plate 29.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.

Species 30. (Plate 30.)
This species is found in the same localities as the preceding ones. It is distinguished by a
characteristic shape of the shell, which is more elongated and pointed at the apex than in the preceding species.



35. a.



36. a.



36. b.



35. b.



37. a.



37. b.



38

DIONE.

PLATE IX.

Species 35. (Fig. *a, b*, Mus. Cuming.)

DIONE LÆTA. *Dion. testâ subquadrato-ovatâ, inflatâ, fulvescente-albâ, ferrugineo-rufo variè radiatâ vel aspersâ, concentricè irregulariter striatâ, latere antico brevissimo, contracto.*

THE CHEERFUL DIONE. Shell somewhat squarely ovate, inflated, fulvous white, variously rayed or sprinkled with rust-red, concentrically irregularly striated, anterior side very short, contracted.

Venus læta, Linnæus, Syst. Nat. p. 1132.

Venus affinis, Gmelin.

Cytherea læta, Lamarck.

Venus tumescens, Blainville.

Cytherea cordiformis, Dunker.

Dione læta, Deshayes.

Hab. Philippine Islands; Cuming.

The painting of this inflated squarely oblong species is extremely variable in pattern, but always of the same peculiar rust-red.

Species 36. (Fig. *a, b*, Mus. Cuming.)

DIONE KINGII. *Dion. testâ ovatâ, tenui, compressiusculâ, fulvescente-albâ, ferrugineo-rufo variè tinctâ et radiatâ, concentricè irregulariter striatâ, latere antico breviusculo, rotundato.*

KING'S DIONE. Shell ovate, thin, rather compressed, fulvous white, variously stained and rayed with rust-red, concentrically irregularly striated, anterior side rather short, rounded.

Venus Kingii, Gray, Wood, Ind. Test. Supp. pl. 2. f. 9.

Cytherea Kingii, Sowerby.

Dione Kingii, Deshayes.

Hab. Island of Nicobar.

Of a more compressly oval form than *D. læta*, less abruptly shortened on the anterior side.

Species 37. (Fig. *a, b*, Mus. Cuming.)

DIONE INFLATA. *Dion. testâ subquadrato-orbiculari, tenuiculâ, inflatâ, fulvescente-lacteâ, ferrugineo-rufo, variè tinctâ vel radiatim aspersâ, concentricè irregulariter striatâ, lateribus subæqualibus.*

THE INFLATED DIONE. Shell somewhat squarely orbicular, rather thin, inflated, fulvous cream-colour, variously stained or radiately sprinkled with rust-red, concentrically irregularly striated, sides somewhat equal.

Cytherea inflata, Sowerby, Thes. Conch. vol. i. p. 637. pl. 133. f. 127, 128.

Dione inflata, Deshayes.

Hab. Philippine and Molucca Islands, and Port Curtis, Australia.

This species is also closely allied to *D. læta*; an orbicular form of it, in which the sides are more equal.

Species 38. (Mus. Cuming.)

DIONE PRORA. *Dion. testâ ovato-trapezoidali, solidiusculâ, albidâ vel lacteâ, immaculatâ, epidermide tenui sericeâ versus marginem, lævigatâ, lateribus ad marginem flexuoso-tumidis, lunulâ subamplâ, excavato-curvatâ.*

THE PROW DIONE. Shell ovately trapezoidal, rather solid, white or cream-colour, unspotted, with a slight silky epidermis towards the margin, smooth, sides flexuously swollen at the margin, lunule rather large, excavately curved.

Cytherea prora, Conrad, Ann. Acad. Nat. Sci. Philadelphia, vol. vii. p. 253. pl. 19. f. 18.

Hab. Cape St. Lucas, Xantus, California; Carpenter.

A colourless shell, distinguished by a peculiar trapezoid form.



39



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41



42



43



44



45

DIONE.

PLATE X.

Species 39. (Mus. Cuming.)

DIONE ALBIDA. *Dion. testâ oblongo-cuneiformi, valde inequilaterali, albidâ, versus umbones ferrugineo tinctâ, concentricè rudè striatâ, latere antico brevissimo.*

THE WHITE DIONE. Shell oblong-wedge-shaped, very inequilateral, whitish, tinged with rust towards the umboes, concentrically rudely striated, anterior side very short.

Pectunculus albidus, Lister, Conch. pl. 273. f. 109.

Venus albida, Gmelin.

Cytherea albida, Hanley.

Dione albida, Sowerby.

Hab. Jamaica?

A rather solid compressed shell, of wedge-like form, with scarcely any tinge of colour.

Species 40. (Mus. Cuming.)

DIONE CONVEXA. *Dion. testâ ovato-cuneiformi, compressiusculâ, sordidè albâ, versus umbones ferrugineo pallidè tinctâ, concentricè subrugoso-striatâ.*

THE CONVEX DIONE. Shell ovately wedge-shaped, rather compressed, dead-white, faintly tinged towards the umboes with rust, concentrically rather roughly striated.

Cytherea convexa, Say, Journ. Acad. Nat. Sci. Philadelphia, vol. iv. pl. 12. f. 3.

Cytherea Sayana, Conrad.

Dione convexa, Deshayes.

Hab. Bay of Massachusetts; Rhode Island.

A dead-white shell, of a more ovate form than that of the preceding species, more coarsely striated.

Species 41. (Mus. Cuming.)

DIONE ROSTRATA. *Dion. obliquè cuneiformi, solidiusculâ, compressâ, sordidè albâ, densè concentricè striatâ, latere postico arcuato-declivi, antico brevissimo, abruptè truncato, umbonibus rostratis.*

THE BEAKED DIONE. Shell obliquely wedge-shaped, rather solid, compressed, dull white, densely concentrically striated, posterior side arcuately sloping, anterior very short, abruptly truncated, with the umboes beaked.

Cytherea rostrata, Koch, Phil. Abbild. Conch. p. 150. pl. 1. f. 3.

Cytherea rostrata, Sowerby.

Venus Tehuelcha, D'Orbigny.

Dione rostrata, Deshayes.

Hab. Brazil.

Distinguished from the preceding species by its very abrupt wedge-like form, the anterior side being so short as to impart a beaked character to the umboes.

Species 42. (Mus. Cuming.)

DIONE ALABASTRUM. *Dion. testâ ovato-cordatâ, tenuiculâ, inflatâ, candidâ, ferrugineo vix tinctâ, concentricè irregulariter corrugato-striatâ, lunulâ et umbonibus subimmersis.*

THE ALABASTER DIONE. Shell ovately cordate, rather thin, inflated, white, scarcely tinged with rust, concentrically irregularly wrinkle-striated, lunule and umboes rather immersed.

Hab. —?

An elegantly-formed inflated species, with the lunule and umboes more cordately immersed than usual.

Species 43. (Mus. Cuming.)

DIONE CITRINA. *Dion. testâ subtrigono-ovatâ, solidâ, citrino-luteâ, purpureo-violaceo posticè tinctâ, umbonibus carneis, concentricè irregulariter corrugato-striatâ.*

THE CITRON DIONE. Shell somewhat triangularly ovate, solid, lemon-yellow, tinged with purple-violet posteriorly, umboes flesh-tinged, concentrically irregularly wrinkle-striated.

Cytherea citrina, Lamarck, Anim. sans vert. vol. vi. p. 306.

Dione citrina, Deshayes.

Hab. Australia and Philippine Islands.

Of a peculiarly delicate lemon colour, stained about the posterior end with dark purple-violet.

Species 44. (Mus. Cuming.)

DIONE STRIATA. *Dion. testâ orbiculari-cuneiformi, solidâ,*

DIONE.—PLATE X.

gibbosiusculá, pallidè spadiceá, ad umbones roseo tinctá, concentricè densè sericeo-striatá, margine postico obtusè tumido-angulato, umbonibus incurvis.

THE STRIATED DIONE. Shell orbicularly wedge-shaped, solid, rather gibbous, pale fawn-colour, tinged with rose at the umboes, concentrically densely silk-striated, posterior margin obtusely tumidly angled, umboes incurved.

Chione striata, Gray, Anal. vol. viii. p. 306.

Dione citrina, var. Deshayes.

Hab. Philippine Islands; Cuming.

A comparison of the above description with that of the preceding species will show that they differ in detail throughout.

Fig. 45. (Mus. Smithsonian Institute of North America.)

This shell, from Cape St. Lucas, Xantus, California, kindly placed in my hands by Mr. Carpenter, as being probably undescribed, proves to be the *Dione prora* (*Cytherea prora*, Conrad) of our preceding Plate.



46.



47.



48.



49.a.



50



51



49.b.



52



53



54

DIONE.

PLATE XI.

Fig. 46. (Mus. Cuming.)

This little shell appears in Mr. Cuming's collection with the name *Cytherea consanguinea*, C. B. Adams (Panama Shells, p. 273). It is apparently a small specimen of a variety of *C. læta*.

Species 47. (Mus. Cuming.)

DIONE AUSTRALICA. *Dion. testâ ovatâ, subæquilaterali, tenui, compressiusculâ, albidâ, ferrugineo-rufo copiosè radiatâ, versus umbones lividis, concentricè densè tenuè lirato-striatâ.*

THE AUSTRALIAN DIONE. Shell ovate, nearly equilateral, thin, rather compressed, white, copiously rayed with rust-red, livid toward the umboes, concentrically densely finely ridge-striated.

Hab. Torres' Straits, North Australia.

A delicate and very characteristic species, nearly equilateral in form.

Species 48. (Mus. Cuming.)

DIONE PELLUCIDA. *Dion. testâ ovatâ, subæquilaterali, tenuiculâ, fulvescente-albâ, ferrugineo-rufo radiatim maculatâ, lævigatâ, vel tenuè concentricè striatâ.*

THE PELLUCID DIONE. Shell ovate, nearly equilateral, rather thin, fulvous white, radiately blotched with rust-red, smooth, or finely concentrically striated.

Cytherea pellucida, Lamarck, Anim. s. vert. vol. vi. p. 313.

Dione pellucida, Deshayes.

Hab. — ?

This, and the shell which I have called *D. Australica*, have a strong general resemblance, but the umboes are more central and tumid in *D. pellucida*, which is altogether of a different character and composition.

Species 49. (Fig. a, b, Mus. Cuming.)

DIONE USTULATA. *Dion. testâ globoso-cuneiformi, solidâ, pallidè ustulato-fuscâ, purpureo-violaceo posticè et versus marginem ventralem tinctâ, concentricè subrudè striatâ, lunulâ amplâ, superficiariâ.*

THE SCORCHED DIONE. Shell globosely wedge-shaped, solid, pale burnt-brown, stained posteriorly and

towards the ventral margin with purple-violet, concentrically rather rudely striated, lunule large, superficial.

Hab. Swan River and New Caledonia.

Allied in general aspect to *D. citrina*, but of a more gibbous, wedge-like form.

Species 50. (Mus. Cuming.)

DIONE VIRGO. *Dion. testâ subtrigono-ovatâ, subcordatâ, solidâ, sordidè albâ, ad umbones sæpe roseo-tinctâ, concentricè rugoso-striatâ.*

THE VIRGIN DIONE. Shell somewhat triangularly ovate, solid, dull white, often tinged with rose at the umboes, concentrically roughly striated.

Chione virgo, Gray, Cat. Cyth. Anal. vol. viii. p. 306.

Dione virgo, Deshayes.

Hab. Java.

Of simple character, mostly distinguished, however, by a blush of rose about the umboes, which is more conspicuous in the interior of the shell.

Species 51. (Mus. Cuming.)

DIONE TORRESICA. *Dion. testâ globoso-caudatâ, tenui, inflatâ, fulvescente-albâ, ferrugineo-rufo radiatim aspersâ, circa marginem posticum purpureo-violaceo tinctâ, lunulâ et areâ ligamenti purpureo-violaceis.*

THE TORRES DIONE. Shell globosely cordate, thin, inflated, fulvous white, radiately sprinkled with rust-red, tinged with purple-violet about the posterior margin, lunule and ligamentary area purple-violet.

Hab. Torres' Straits, North Australia.

There is a close resemblance between the general detail of character of this and the species from the same locality which I have named *D. Australica*, but these are widely different in form.

Species 52. (Mus. Cuming.)

DIONE SUBPELLUCIDA. *Dion. testâ subobliquè ovatâ, compressiusculâ, tenui, fulvescente-albâ, ferrugineo-*

rufo copiosè radiatâ, concentricè densè striatâ, margine ventrali, lunulâ et areâ ligamenti ustulato-purpureis.

THE SUBPELLUCID DIONE. Shell somewhat obliquely ovate, rather compressed, thin, fulvous white, copiously rayed with rust-red, concentrically densely striated, ventral margin, lunule, and ligamentary area scorched purple.

Cytherea subpellucida, Sowerby, Thes. Conch. vol. i. p. 639. pl. 133. f. 136.

Dione subpellucida, Deshayes.

Hab. Island of Luzon, Philippines; Cuming.

Rather broad in dimensions from the umboes to the ventral margin, which, together with the lunule and ligamentary area, are strongly tinged with scorched livid purple.

Species 53. (Mus. Cuming.)

DIONE CROCEA. *Dion. testâ globoso-subcordatâ, tenuiculâ, eximie croceâ, aut vitellinâ, versus umbones rosaceo tinctâ, lævigatâ, nitente, concentricè densè tenuistriatâ.*

THE SAFFRON DIONE. Shell globosely subcordate, rather

thin, delicate saffron, or yolk, tinged with rose towards the umboes, smooth, shining, concentrically densely finely striated.

DESHAYES, MS. in Mus. Cuming.

Hab. Philippine Islands; Cuming.

Coloured both within and without with a rose-tinged saffron, inclining to a warm yolk-yellow.

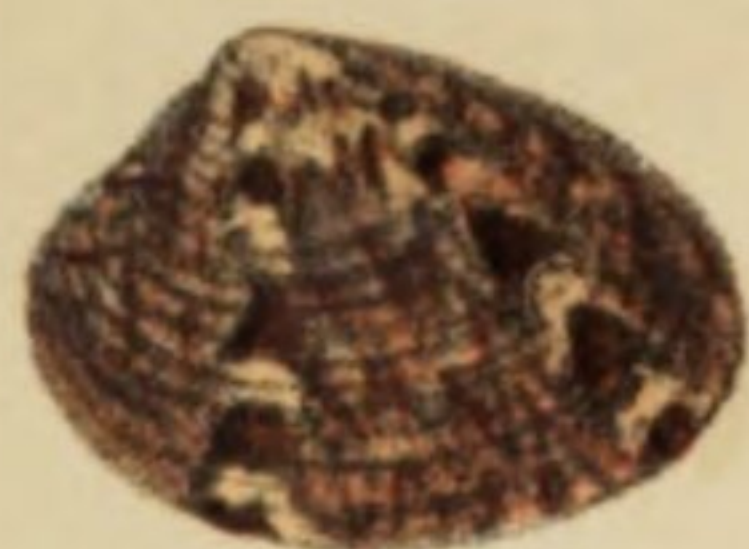
Species 54. (Mus. Cuming.)

DIONE ERUBESCENS. *Dion. testâ globoso-cordatâ, tenui, inflatâ, lacteâ, versus umbones roseo-tinctâ, nitente, concentricè densè lirato-striatâ, lunulâ amplâ, indistinctâ.*

THE BLUSHING DIONE. Shell globosely cordate, thin, inflated, cream colour, tinged with rose towards the umboes, shining, concentrically densely ridge-striated, lunule large, indistinct.

Hab. Ceylon; E. L. Layard.

Somewhat like the preceding species in general aspect, but more heart-shaped, while, on examination with the lens, the surface will be found to be sculptured concentrically with distinct ridges.



56



55



57



58



59



60



61



62. a.



62 b



62. c.

DIONE.

PLATE XII.

Species 55. (Mus. Cuming.)

DIONE ANGULIFERA. *Dion. oblongo-ovali, posticè angulato-productà, fulvescente-albà, maculis angularibus griseo-purpureis radiatà, concentricè rugoso-striatà.*

THE ANGULAR DIONE. Shell oblong-oval, angularly produced on the posterior side, fulvous white, rayed with angular greyish-purple spots, concentrically roughly striated.

Cytherea angulifera, Sowerby, Thes. Conch. vol. i. p. 635. pl. 136. f. 189.

Dione angulifera, Deshayes.

Hab. — ?

This small species is chiefly distinguished by its angularly prolonged growth on the posterior side.

Species 56. (Mus. Cuming.)

DIONE PHASIANELLA. *Dion. testà oblongo-ovatà, solidiusculà, versus marginem compressà, fulvescente-albà, violaceo-castaneo variè tinctà, undulatà et biradiatà, lunulà et areà ligamenti violaceo-castaneis, concentricè lineari-sulcatà, sulcis distinctis, æquidistantibus.*

THE LITTLE PHEASANT DIONE. Shell oblong-ovate, rather solid, compressed towards the margin, fulvous white, variously stained, waved and two-rayed with violet-chestnut, lunule and ligamentary area violet-chestnut, concentrically linearly grooved, grooves distinct, equidistant.

Venus phasianella, Deshayes, Pro. Zool. Soc. 1853, p. 2.

Dione phasianella, Deshayes.

Hab. — ?

Characterized by a concentric sculpture of equidistant, linear grooves, rather widely separated from each other.

Species 57. (Mus. Cuming.)

DIONE AFRICANA. *Dion. subelongato-ovali, posticè acuminato-productà, fulvescente-albà, nigricante-griseo concentricè irregulariter undatà, lævigatà, margine postico densè corrugato-sulcato.*

THE AFRICAN DIONE. Shell somewhat elongately oval, acuminate produced on the posterior side, fulvous white, concentrically irregularly waved with dark grey, smooth, posterior margin densely wrinkle-grooved.

Cytherea Africana, Philippi, MS. in Mus. Cuming.

Hab. Australia?

The posterior side of this shell is peculiar, not only in being acuminate produced, but in being conspicuously wrinkled along the margin with close-set grooves.

Species 58. (Mus. Cuming.)

DIONE PALLESCENS. *Dion. testà subcordato-ovatà, sordidè albà, concentricè densè striatà, striis numerosissimis, filiformibus.*

THE PALE DIONE. Shell subcordately ovate, dull white, concentrically densely striated, striæ very numerous and thread-like.

Cytherea pallescens, Sowerby, Pro. Zool. Soc. 1835, p. 47.

Dione pallescens, Deshayes.

Hab. Isle of Annaa; Cuming.

A shell of simple form, without any indication of colour, sculptured with very numerous, fine, thread-like striæ.

Species 59. (Mus. Cuming.)

DIONE PIPERITA. *Dion. testà subelongato-ovatà, solidiusculà, fulvescente-lacteà, punctis maculisque hieroglyphicis nigris promiscuè aspersà, lævigatà, latere postico concentricè lineari-sulcato, sulcis æquidistantibus.*

THE PEPPERED DIONE. Shell somewhat elongately ovate, rather solid, fulvous cream-colour, promiscuously sprinkled with black dots and hieroglyphical marks, smooth, posterior side concentrically linearly grooved, grooves equidistant.

Cytherea piperita, Sowerby, Thes. Conch. vol. i. p. 625. pl. 136. f. 175.

Dione piperita, Deshayes.

Hab. Island of Burias, Philippines.

Sprinkled in a very characteristic manner with black dots and small hieroglyphic marks.

Species 60. (Mus. Cuming.)

DIONE MULTISTRIATA. *Dion. testà oblongo-ovatà, solidà, fulvo-spadiceà, purpureo-cinereo radiatà, concentricè irregulariter rugosè multistriatà.*

THE MANY-STRIATED DIONE. Shell oblong-ovate, solid,

fulvous drab, rayed with purple-ash, concentrically irregularly roughly many-striated.

Cytherea multistriata, Sowerby, Thes. Conch. vol. i. p. 628. pl. 136. f. 177.

Dione multistriata, Deshayes.

Hab. New Zealand.

Rather variable in character, but generally more or less rayed with purple-ash upon a fulvous bay ground.

Species 61. (Mus. Cuming.)

DIONE TORTUOSA. *Dion. testâ subangustè obliquè cordatâ, solidâ, eburneâ, ad umbones fulvescente tinctâ, latere antico breviusculo, rotundato, postico flexuosè attenuato-producto, concentricè obtusè corrugato-liratâ, liris hic illic confluentibus.*

THE TWISTED DIONE. Shell rather narrowly obliquely cordate, solid, ivory-white, tinged with fulvous at the umboes, anterior side rather short, rounded, posterior flexuously attenuately produced, concentrically obtusely wrinkle-ridged, ridges here and there flowing together.

Cytherea tortuosa, Broderip, Pro. Zool. Soc. 1835, p. 45.

Venus tortuosa, D'Orbigny.

Dione tortuosa, Deshayes.

Hab. Xipixapi, Central America; Cuming.

The confluent ridges of this attenuately cordate species and the interstices are of a uniform delicate ivory-white.

Species 62. (Fig. a, b, c, Mus. Cuming.)

DIONE PANNOSA. *Dion. testâ subtrigono-ovatâ, solidiusculâ, fulvâ, violaceo-fusco variè radiatâ, tinctâ vel reticulatâ, lævigatâ, vel concentricè subrugoso-striatâ, sub lente radiatim minutissimè striatâ.*

THE RAGGED DIONE. Shell somewhat triangularly ovate, rather solid, fulvous, variously stained, rayed, or reticulated with violet-brown, smooth, or concentrically rather roughly striated, beneath the lens radiately very minutely striated.

Cytherea pannosa, Sowerby, Pro. Zool. Soc. 1835, p. 47.

Cytherea lutea, Koch.

Venus pannosa, D'Orbigny.

Dione pannosa, Deshayes.

Callista puella, Carpenter.

Hab. Chili, Peru, Mazatlan.

The colouring of this species, though extremely variable, is mostly disposed in irregular mottled reticulations, more especially about the lunule and ligamentary area.

MONOGRAPH

OF THE GENUS

C I R C E.

"Read Nature ; Nature is a friend to truth.
Nature is Christian, preaches to mankind,
And bids dead matter aid us in our creed."—*Young*.

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MONOGRAPH

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CIRCE.

	Plate.	Species.		Plate.	Species.
<i>abbreviata</i> (Cytherea), Lamarck. .	X.	47	<i>minima</i> (Venus), Montagu	IV.	14
<i>Adenensis</i> (Cytherea), Philippi . .	X.	49	<i>muscaria</i> (Cytherea), Lamarck . .	VI.	24
<i>æquivoca</i> (Venus), Chemnitz. . . .	VI.	22	<i>nummulina</i> (Cytherea), Lamarck	VI.	25
<i>albida</i> , Deshayes	III.	13	<i>orbica</i> , Reeve	III.	8
<i>apicalis</i> (Cytherea), Philippi . . .	IV.	14	<i>ornata</i> (Cytherea), Lamarck	VII.	27
<i>Arabica</i> (Venus), Chemnitz	X.	44	<i>pectinata</i> (Venus), Linnæus	V.	20
<i>Artemis</i> , Deshayes	IV.	15	<i>personata</i> , Deshayes	II.	6
<i>australis</i> , Sowerby	IV.	19	<i>Pfeifferi</i> (Cytherea), Philippi . . .	X.	45
<i>australis</i> (Venus), Chemnitz	VII.	28	<i>picta</i> (Cytherea), Lamarck	IX.	42
<i>Callipyga</i> (Venus), Born	X.	49	<i>plebeia</i> (Cytherea), Hanley	IV.	17
<i>castrensis</i> (Venus), Linnæus	VII.	28	<i>plicatina</i> (Cytherea), Lamarck . .	I.	2
<i>corrugata</i> (Venus), Chemnitz	II.	4	<i>pulchra</i> , Deshayes	X.	46
<i>crocea</i> , Gray	III.	10	<i>pulicaris</i> (Cytherea), Lamarck . .	VI.	24
<i>Cyrilli</i> (Cytherea), Philippi	IV.	14	<i>ranella</i> (Cytherea), Lamarck	V.	21
<i>dispar</i> (Venus), Chemnitz	VI.	24	<i>rivularis</i> (Venus), Born	I.	3
<i>discors</i> (Venus), Schröter	VI.	23	<i>rubiginosa</i> (Cytherea), Philippi . .	IX.	39
<i>divaricata</i> (Venus), Chemnitz	VI.	23	<i>rudis</i> (Venus), Poli	IX.	38
<i>elegans</i> (Cytherea), Sowerby	X.	46	<i>rugifera</i> (Cytherea), Lamarck . .	II.	4
<i>elliptica</i> (Cytherea), Sowerby	X.	48	<i>Savignyi</i> (Cytherea), Jonas	V.	20
<i>erythræa</i> (Cytherea), Jonas	IV.	16	<i>scripta</i> (Venus), Linnæus	I.	1
<i>fastigiata</i> (Cytherea), Sowerby . .	IX.	41	<i>Sowerbyi</i> , Deshayes	VIII.	29
<i>fluctuata</i> (Cytherea), Sowerby . . .	IX.	36	<i>sugillata</i> , Reeve	III.	11
<i>fulgurata</i> , Reeve	II.	5	<i>sulcata</i> , Gray	IV.	16
<i>fumata</i> , Reeve	VIII.	35	<i>sulcatina</i> (Cytherea), Lamarck . .	IX.	40
<i>gibba</i> (Cytherea), Lamarck	V.	21	<i>testudinalis</i> (Cytherea), Lamarck	VI.	23
<i>Hebræa</i> (Cytherea), Lamarck . . .	VIII.	34	<i>tigrina</i> (Cytherea), Lamarck	VIII.	32
<i>hieroglyphica</i> (Meretrix), Conrad	IX.	43	<i>transversaria</i> , Deshayes	VI.	22
<i>intermedia</i> , Reeve	VII.	26	<i>triangularis</i> (Venus), Montagu . .	IV.	14
<i>lenticularis</i> , Deshayes	II.	7	<i>trigona</i> , Reeve	III.	12
<i>lentiginosa</i> (Venus), Chemnitz . .	X.	45	<i>trimaculata</i> (Cytherea), Lamarck	VIII.	33
<i>liturata</i> , Gray	X.	45	<i>tumefacta</i> , Sowerby	III.	9
<i>Lorenziana</i> (Venus), Chemnitz . .	VII.	28	<i>undatina</i> (Cytherea), Lamarck . .	I.	1
<i>Manillæ</i> (Cytherea), Sowerby . . .	IX.	37	<i>varians</i> (Cytherea), Wood	IX.	39
<i>marmorata</i> , Reeve	VIII.	30	<i>Venetiana</i> (Cytherea), Lamarck . .	IX.	38



1.a.



2.a.



2.b.



1.b.



3.a.



1.c.



CIRCE.

PLATE I.

Genus CIRCE, Schumacher.

Testa nunc plano-lenticularis, umbonibus compressis, nunc ovata, turgida, umbonibus cordatis. Cardo tridentatus, dentibus inæqualibus, divergentibus, antico lateraliter elongato. Impressio pallii simplex, haud sinuata.

Shell sometimes flatly lens-shaped with the umboes compressed, sometimes ovate and turgid with the umboes cordate. Hinge three-toothed, teeth unequal, diverging, the anterior laterally elongated. Impression of the mantle simple, not sinuated.

In this group of about fifty species, all of which, so far as the habitats are at present known, are, with a single exception (*C. nummulina*), inhabitants of the Eastern Hemisphere, we have two apparently very dissimilar forms. In the first of these, of which the Linnæan *Venus scripta* (*Cytherea scripta*, Lamarck) is the type, the shell is singularly flat, compressly pinched at the umboes; in the second, of which the Linnæan *Venus castrensis* (*Cytherea castrensis*, Lamarck) is the type, the shell is ovately turgid, with the umboes cordate. And, intermediate between these forms, a very characteristic link is presented in the Linnæan *Venus pectinata* (*Cytherea pectinata*, Lamarck), with the sculpture peculiarly divaricate, which divarication is present in *C. intermedia*, a member of the *C. castrensis* group. All are distinguished generically by the absence of any posterior sinus in the pallial impression. *C. castrensis* and its congeners have been separated as a subgenus by Morch, under the title *Lioconcha*.

With the exception of the single Central American species already mentioned, and the two small European species *C. rudis* and *minima*, the *Circe* inhabit exclusively the Indian Ocean (including the Philippine Islands), Australia, and the Red Sea, and *C. gibba*, *pectinata*, and *divaricata*, belonging to the intermediate group, inhabit, curiously enough, all of these three localities in common. It should be added, however, that it is only of about one-half of the *Circe* that the habitats are as yet known.

Species 1. (Fig. *a, b, c*, Mus. Cuming.)

CIRCE SCRIPTA. *Circ. testâ subquadrato-lentiformi, compressâ, posticè angulatè truncatâ, fulvescente-albâ, castaneo-fusco lineari-undatâ, plerumque biradiatim maculatâ, concentricè crebriliratâ, umbonibus plano-compressis.*

THE WRITTEN CIRCE. Shell somewhat squarely lens-

shaped, compressed, posteriorly angularly truncated, fulvous-white, linearly waved with chestnut-brown, generally biradiately blotched, concentrically closely ridged, umboes flatly compressed.

Venus scripta, Linnæus, Syst. Nat. p. 1135.

Cytherea scripta and *undatina*, Lamarck.

Hab. Eastern Seas.

The shell represented at Fig. 1 *c* is, I believe, the variety named *Cytherea undatina* by Lamarck. It is somewhat conspicuously removed from the normal type of the species, Fig. 1 *b*, but this species is one of the most variable of the genus.

Species 2. (Fig. *a, b*, Mus. Cuming.)

CIRCE PLICATINA. *Circ. testâ obliquè lenticulari, crassiusculâ, posticè rotundato-truncatâ, fulvescente-albâ, nigricante-castaneo reticulato-undatâ, concentricè validè corrugato-plicatâ.*

THE PLEATED CIRCE. Shell obliquely lens-shaped, rather thick, posteriorly rotundately truncated, fulvous-white, reticulately waved with dark chestnut, concentrically strongly wrinkle-pleated.

Cytherea plicatina, Lamarck, Anim. sans vert. vol. vi. p. 326.

Hab. New Holland.

This is a stouter and more convex species than *C. scripta*, of a peculiar oblique, instead of square growth, very strongly concentrically pleated.

Species 3. (Fig. *a, b*, Mus. Cuming.)

CIRCE RIVULARIS. *Circ. testâ subquadrato-lentiformi, depressissimâ, fulvescente-albâ, spadiceo-rufo radiatim nebulatâ, circa umboes lævigatâ, deinde concentricè rudè liratâ, ad latera exiliter diagonaliter rugatâ.*

THE RILLED CIRCE. Shell somewhat squarely lens-shaped, very depressed, fulvous-white, radiately clouded with fawn-red, smooth around the umboes, then concentrically rudely ridged, at the sides faintly diagonally wrinkled.

Venus rivularis, Born, Test. Mus. Vindob. p. 72. pl. 5. f. 7.

Cytherea rivularis, Menke.

Circe rivularis, Sowerby.

Hab. New Holland.

A pale, very depressed species, radiately clouded with fawn-red.



4.



5.



6.a.



7.a.



6.b.



6.c.



7.b.

CIRCE.

PLATE II.

Species 4. (Mus. Cuming.)

CIRCE CORRUGATA. *Circ. testā suborbiculari, convexā, posticè obliquè angulatā, compressiusculā, fulvescente-lacteā, lineis tenuibus rufo-fuscis reticulatā, concentricè validè plicato-liratā, circa umbones conspicuè undato-rugosā.*

THE WRINKLED CIRCE. Shell suborbicular, convex, posteriorly obliquely angled, rather compressed, fulvous cream-colour, reticulated with fine red-brown lines, concentrically strongly plicately ridged, conspicuously wave-wrinkled round the umboes.

Venus corrugata, Chemnitz, Conch. Cab. vol. vii. p. 25, pl. 39. f. 410, 411.

Cytherea rugifera, Lamarck.

Circe corrugata, Gray.

Circe rugifera, Sowerby.

Hab. Red Sea.

The fine network of red-brown lines becomes obsolete with the thickening of the crowded concentric ridges.

Species 5. (Mus. Cuming.)

CIRCE FULGURATA. *Circ. testā ovatā, posticè subquadrata, compressā, livido-albicante, lineis rufo-fuscis acutè angulatis copiosè notatā, concentricè densè sulcatā et lirato-striatā, posticè leviusculā.*

THE LIGHTNING-MARKED CIRCE. Shell ovate, posteriorly somewhat square, compressed, livid-white, copiously marked with sharply zigzag red-brown lines, concentrically densely grooved and ridge-striated, posteriorly rather smooth.

Hab. — ?

An oblong-ovate form of *C. scripta*, in which the marking is crowded and sharply angled.

Species 6. (Fig. a, b, c, Mus. Cuming.)

CIRCE PERSONATA. *Circ. testā suborbiculari, posticè subquadratā, valde compressā, livido-fulvescente, rufo-castaneo radiatā et nebulatā, concentricè densè sulcatā et lirato-striatā, posticè leviusculā.*

THE MASKED CIRCE. Shell nearly orbicular, posteriorly somewhat square, very compressed, livid-fulvous, rayed and clouded with reddish-chestnut, concentrically closely grooved and ridge-striated, posteriorly rather grooved.

DESHAYES, Pro. Zool. Soc. 1853, p. 6.

Hab. Philippine Islands; Cuming.

This also is a form of *C. scripta*, in which the clouded rays of colour give fancied resemblances at their margin of the human profile.

Species 7. (Fig. a, b, Mus. Cuming.)

CIRCE LENTICULARIS. *Circ. testā circulari-ovatā, posticè subproductā, solidā, convexā, fulvescente-albā, lineis purpureo-nigris obliquè diagonaliter undatā, concentricè rudè plicato-liratā, versus umbones radiatim divaricato-striatā.*

THE LENS-SHAPED CIRCE. Shell circularly ovate, a little produced posteriorly, solid, convex, fulvous-white, diagonally sharply waved with purple-black lines, concentrically rudely plicately ridged, towards the umboes radiately divaricately striated.

DESHAYES, Pro. Zool. Soc. 1853, p. 7.

Hab. — ?

A very characteristic species, swollen in the middle, compressed towards the periphery, conspicuously marked with diagonally-waved sharply zigzag purple-black lines.

October, 1863.

CITIZEN.

Page 11.

Special A. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Special B. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Special C. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Special D. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Special E. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Special F. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Special G. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Special H. (New Country)

The first of these is the fact that the country is a very fertile one, and that the soil is very rich. The second is the fact that the climate is very healthy, and that the air is very pure. The third is the fact that the water is very good, and that the food is very fresh.

Page 12.



9.



8.



10.a.



10. b.



11.



13.



12.

CIRCE.

PLATE III.

Species 8. (Mus. Cuming.)

CIRCE ORBICA. *Circ. testā orbiculari, lenticulari, versus umbones subtriangulari, lacteā, purpureo-nigro transversim undulatā, concentricè confertim plicato-liratā, ad umbones nitidè divaricatim plicatā.*

THE CIRCULAR CIRCE. Shell orbicular, lens-shaped, slightly triangular towards the umboes, cream-colour, transversely waved with purple-black, concentrically closely plicately ridged, neatly divaricately plaited at the umboes.

Hab. — ?

Of the same typical character as *C. scripta*, but of a solid circular lens-shape, beautifully painted and sculptured.

Species 9. (Mus. Cuming.)

CIRCE TUMEFACTA. *Circ. testā suborbiculari-ovatā, posticè declivi-lobatā, medio tumidiusculā, fulvescente-albā, nigricante-castaneo acutè lineari-undatā, concentricè rudè plicato-liratā, posticè lævigatā, ad umbones divaricatim plicatā.*

THE SWOLLEN CIRCE. Shell suborbicularly ovate, posteriorly slopingly lobed, rather swollen in the middle, fulvous-white, sharply linearly waved with dark-chestnut, concentrically rudely plicately ridged, smooth posteriorly, divaricately plated at the umboes.

SOWERBY, Thes. Conch. vol. i. p. 652. pl. 138. f. 28 to 30.

Hab. — ?

Differing from the preceding species in being slopingly lobed on the posterior side, while the concentric sculpture is more rude and irregular.

Species 10. (Fig. a, b, Mus. Cuming.)

CIRCE CROCEA. *Circ. testā obliquè suborbiculari, nunc compressā, nunc tumidiusculā, fulvescente-lacteā, purpurascete pallidè tinctā, ad umbones purpurascete-ferrugineo biradiatā, exiliter concentricè striatā, ad umbones divaricatim plicato-rugatā, intus croceā.*

THE SAFFRON CIRCE. Shell obliquely suborbicular, sometimes compressed, sometimes rather swollen, fulvous cream-colour, faintly tinged with purple, two-rayed with purple-rust at the umboes, finely concentrically striated, divaricately plicately wrinkled at the umboes, saffron-colour in the interior.

GRAY, Cat. Cyth. Anal. vol. viii. p. 307.

Cytherea crocea, Hanley.

Hab. Red Sea.

Mostly distinguished by two purple-rust rays at the umboes. The interior is invariably tinged with saffron-colour.

Species 11. (Mus. Cuming.)

CIRCE SUGILLATA. *Circ. testā circulari-ovatā, posticè subproductā, livido-albicante, castaneo-brunneo copiosè radiatim tinctā, concentricè rudè lirata, ad umbones exiliter divaricatim plicatā.*

THE BRUISED CIRCE. Shell circularly ovate, slightly produced posteriorly, livid-white, copiously radiately stained with chestnut-brown, concentrically rudely ridged, faintly divaricately plicated at the umboes.

Hab. — ?

This richly-stained chestnut-brown shell approaches *C. trigona*, but it has not the triangular form characteristic of that species.

Species 12. (Mus. Cuming.)

CIRCE TRIGONA. *Circ. testā orbiculari, versus umbones conspicuè trigonā, plano-compressā, fulvescente-albā, concentricè confertim rudè lirata, ad umbones divaricatim corrugato-plicatā.*

THE TRIANGULAR CIRCE. Shell orbicular, conspicuously triangled towards the umboes, flatly compressed, fulvous-white, concentrically closely rudely ridged, divaricately corrugately plicated at the umboes.

Hab. — ?

Distinguished by a flatly compressed triangular growth, though still rudely concentrically ridged throughout.

Species 13. (Mus. Cuming.)

CIRCE ALBIDA. *Circ. testâ ovatâ, posticè subquadrato-lobatâ, valde compressâ, lacteâ, immaculatâ, concentricè striato-liratâ, striis ad latus posticum tenuioribus.*

THE WHITISH CIRCE. Shell ovate, posteriorly somewhat squarely lobed, very compressed, cream-colour,

unspotted, concentrically striately ridged, striæ finer on the posterior side.

DESHAYES, Cat. Conch. Brit. Mus. p. 84.

Hab. Australia.

Very closely allied to *C. scripta*; remarkably thinly compressed, without any indication of colour or marking.



14. a.



14. b.



14. c.



15



16. a.



16. b.



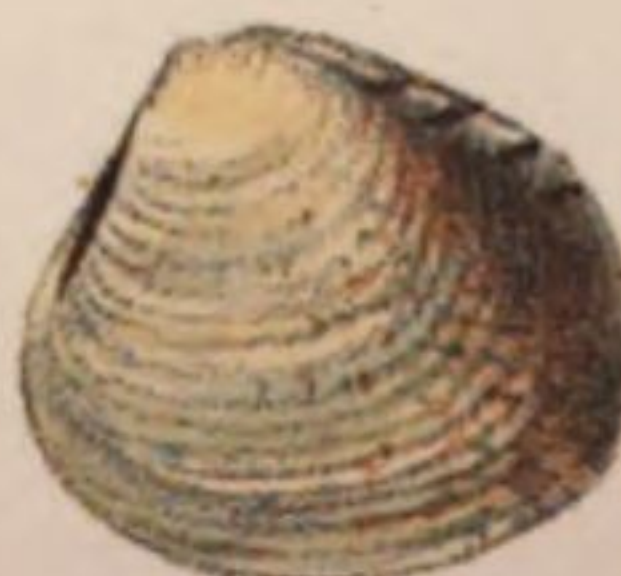
17



16. c.



18



19.

CIRCE.

PLATE IV.

Species 14. (Fig. a, b, c, Mus. Cuming.)

CIRCE MINIMA. *Circ. testâ orbiculari-cordatâ, interdum ventricosâ, fulvescente-albâ, rufo-fusco lentiginosâ vel radiatim maculatâ, concentricè conspicuè striatâ, striis plus minus irregularibus.*

THE VERY SMALL CIRCE. Shell orbicularly heart-shaped, sometimes ventricose, fulvous white, freckled or radiately blotched with red-brown, concentrically conspicuously striated, striæ more or less irregular.

Venus minima, Montagu, Test. Brit. p. 121. pl. 3. f. 3.

Venus triangularis, Montagu.

Cyprina minima, Turton.

Cyprina triangularis, Turton.

Cytherea triangularis, Macgillivray.

Cytherea apicalis, Philippi.

Circe triangularis, King.

Cytherea Cyrilli, Philippi.

Cytherea minima, Brown.

Cytherea minuta, Brown.

Circe minima, Forbes and Hanley.

Hab. European Seas.

This well-known species, the smallest of the genus, varies curiously in convexity and in marking. It is very generally distributed throughout the British Isles.

Species 15. (Mus. Cuming.)

CIRCE ARTEMIS. *Circ. testâ orbiculato-lenticulari, depressâ, candidâ, rufo-fusco obsoletè sparsim radiatâ, lunulâ et areâ ligamenti rufo maculatâ, concentricè lirato-striatâ, interstitiis crispato-punctatis.*

THE ARTEMIS CIRCE. Shell orbicularly lens-shaped, depressed, white, obsoletely sparingly rayed with red-brown, lunule and ligamentary area red-spotted, concentrically ridge-striated, interstices crisply punctured.

DESHAYES, Cat. Conch. Mus. Brit. p. 86.

Hab. — ?

Bright opake white, peculiarly sparingly rayed with red-brown dots or broken spots of the same colour.

Species 16. (Fig. a, b, c, Mus. Cuming.)

CIRCE SULCATA. *Circ. testâ subtrigono-orbiculari, lenti-*

culari, depressâ, fulvescente-albâ, rufescente-castaneo radiatâ vel plus minus copiosè tinctâ, concentricè tenuiliratâ, sulcis interstitialibus crispato-punctatis.

THE GROOVED CIRCE. Shell somewhat triangularly orbicular, lens-shaped, depressed, fulvous white, rayed or more or less copiously stained with reddish-chestnut, concentrically finely ridged, interstitial grooves crisply punctured.

GRAY, Cat. Cyth. Anal. vol. viii. p. 107.

Cytherea sulcata, Hanley.

Cytherea erythræa, Jonas.

Hab. Philippine Islands; Cuming.

Extremely variable in marking, but the marks are generally of the same uniform reddish-chestnut colour.

Species 17. (Mus. Cuming.)

CIRCE PLEBEIA. *Circ. testâ obliquè orbiculari, depressâ, albidâ, rufo-fusco sparsissimè obsoletè lineari-undatâ, concentricè tenuiliratâ, sulcis interstitialibus crispato-punctatis.*

THE POOR CIRCE. Shell obliquely orbicular, depressed, whitish, very sparingly obsoletely linearly waved with red-brown, concentrically finely ridged, interstitial grooves crisply punctured.

Cytherea plebeia, Hanley, Pro. Zool. Soc. 1844, p. 109.

Index Test. Supp. pl. 15. f. 37.

Circe plebeia, Sowerby.

Circe sulcata, var., Deshayes.

Hab. Philippine Islands; Cuming.

We give a figure of this shell as being the type of Mr. Hanley's *Cytherea plebeia*, but it may prove, as suggested by M. Deshayes, to be a large obliquely produced variety of the preceding species. The details of sculpture are the same.

Fig. 18. (Mus. Cuming.)

This interesting small shell, marked throughout with an angular network of red-brown lines, proves to be *C. corrugata* in an early stage of growth.

Species 19. (Mus. Cuming.)

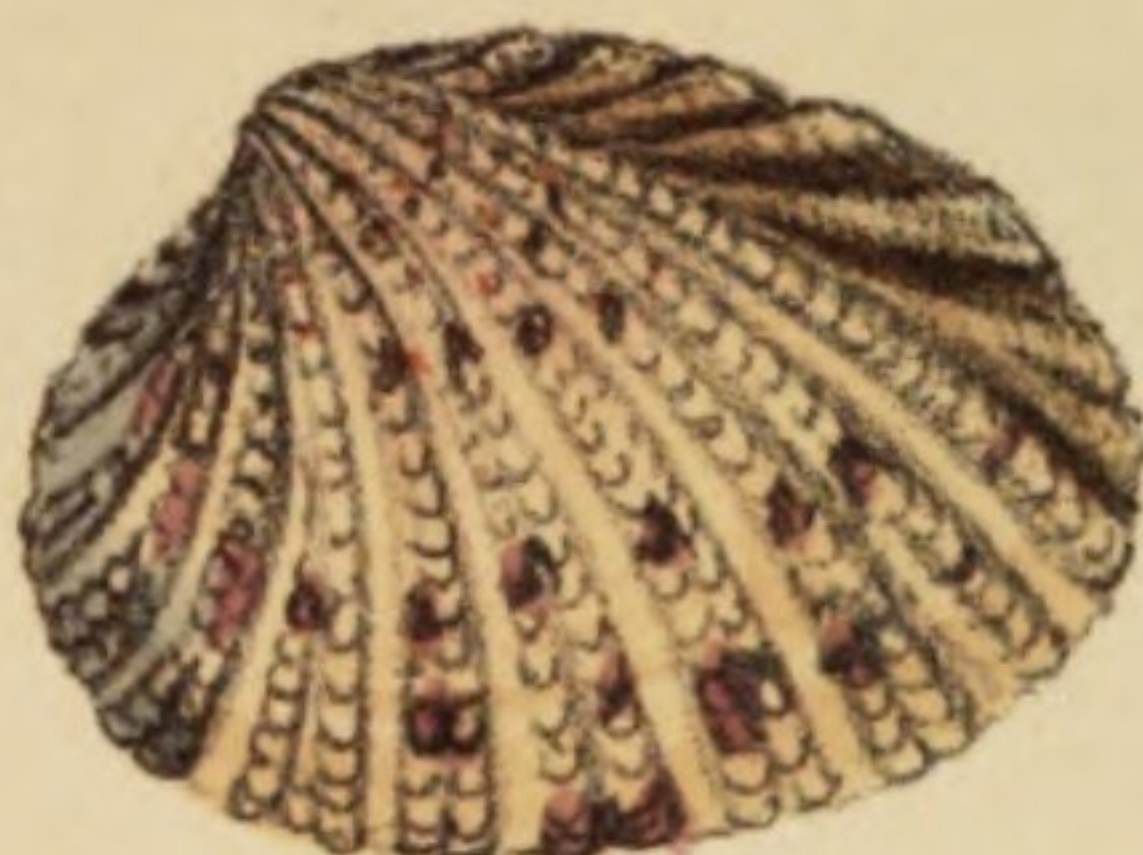
CIRCE AUSTRALIS. *Circ. testâ subtrigono-ovatâ, posticè subquadratâ, depressâ, cærulescente-albâ, punctis rufescente-fuscis pallidè aspersâ, lunulâ elongatâ, intensè livido-fuscâ, concentricè confertim liratâ, liris subrecurvâ, interstitiis excavatis.*

THE SOUTHERN CIRCE. Shell somewhat triangularly ovate, posteriorly rather square, depressed, bluish-white, faintly sprinkled with red-brown dots, lunule

elongated, dark livid-brown, concentrically closely ridged, ridges slightly recurved, interstices excavated. SOWERBY, Thes. Conch. vol. i. p. 651. pl. 137. f. 16, 17.

Hab. Australia.

A very characteristic triangularly ovate species, in which the dark livid-brown lunule contrasts strongly in colour with the faint sprinkling of red dots on the general surface of the shell.



20. a.



20. b.



20. c.



21. a.



21. b.



21. c.



21. d.

CIRCE.

PLATE V.

Species 20. (Fig. *a, b, c*, Mus. Cuming.)

CIRCE PECTINATA. *Circ. testā oblongo-ovali, compressā, posticè subquadratā, albidā, rufo-fusco concentricè maculatā et punctatā, radiatim costatā, costis irregularibus, nodoso-granatis, versus marginem bifurcatis, latere postico divaricatim bifurcatim plicato.*

THE COMB-LIKE CIRCE. Shell oblong-oval, compressed, posteriorly somewhat square, whitish, concentrically blotched and dotted with red-brown, radiately ribbed, ribs irregular, nodosely grained, bifurcated towards the margin, posterior side divaricately bifurcately plaited.

Venus pectinata, Linnæus, Syst. Nat. p. 1135.

Cytherea pectinata, Lamarck.

Circe pectinata, Gray.

Cytherea Savignyi, Jonas.

Hab. Red Sea, Philippine Islands.

This well-known species is typically of a compressed form, but it varies considerably and passes into the gibbosity of the next species. The sculpture is finer and more elaborate.

Species 21. (Fig. *a, b, c, d*, Mus. Cuming.)

CIRCE GIBBA. *Circ. testā oblongo-ovalā, crassā, valde gibbosā, posticè parum quadratā, albidā, interdum ferrugineo tinctā, rufo-fusco aut nigro posticè et versus umbones maculatā, radiatim costatā, costis irregularibus, rudè nodoso-granatis, ad marginem interdum bifurcatis, latere postico divaricatim bifurcatim plicato.*

THE GIBBOUS CIRCE. Shell oblong-ovate, thick, very gibbous, posteriorly but little square, whitish, sometimes tinged with rust, spotted posteriorly and towards the umboes with red-brown, or black, radiately ribbed, ribs irregular, rudely nodosely grained, sometimes bifurcated at the margin, posterior side divaricately bifurcately plaited.

Cytherea gibba, Lamarck, Anim. sans vert. vol. v. p. 577

Cytherea ranella, Lamarck.

Circe gibba, Gray.

Hab. Red Sea, Philippine Islands, Australia.

Of a very solid gibbous growth compared with the preceding species, much more rudely sculptured, the ribs being strongly nodosely grained, deeply excavated in the interstices.

CHIEF

7

The first of these is the fact that the
chief of the tribe is a man of
high rank and is called "Chief".
The second is that the chief is
a man of high rank and is called
"Chief". The third is that the
chief is a man of high rank and
is called "Chief". The fourth is
that the chief is a man of high
rank and is called "Chief".

The fifth is that the chief is a
man of high rank and is called
"Chief". The sixth is that the
chief is a man of high rank and
is called "Chief". The seventh
is that the chief is a man of
high rank and is called "Chief".

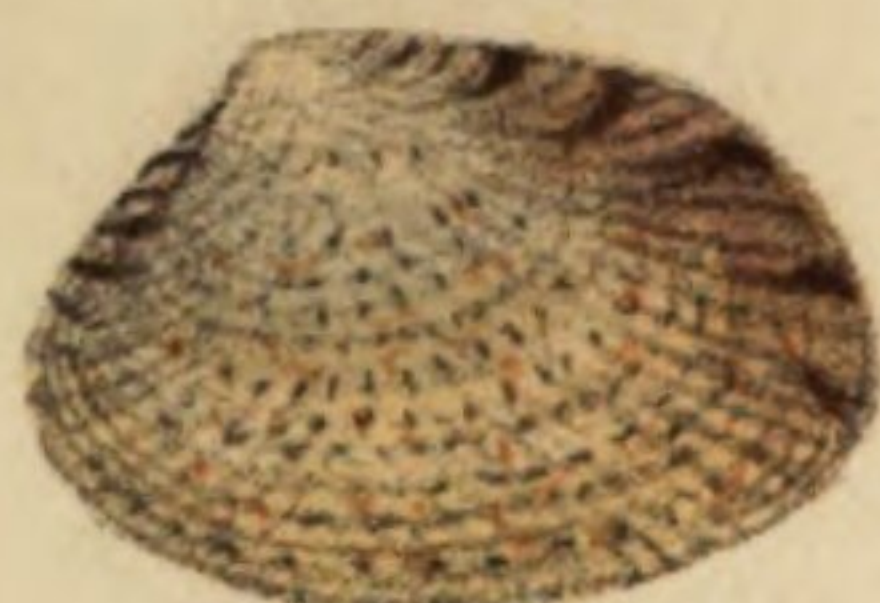
The eighth is that the chief is a
man of high rank and is called
"Chief". The ninth is that the
chief is a man of high rank and
is called "Chief". The tenth is
that the chief is a man of high
rank and is called "Chief".

The eleventh is that the chief is
a man of high rank and is called
"Chief". The twelfth is that the
chief is a man of high rank and
is called "Chief".

The thirteenth is that the chief
is a man of high rank and is
called "Chief".



22.a.



22.b.



22.c.



23.a.



23.b.



23.c.



23.d.



24.a.



24.b.



25.

CIRCE.

PLATE VI.

Species 22. (Fig. *a, b, c*, Mus. Cuming.)

CIRCE ÆQUIVOCA. *Circ. testā obliquè ovalā, compressiusculā, ad latus posticum subtruncatā, fulvescente-albā, cinereo-fusco undatā aut variè tinctā, versus marginem plerumque reticulato-maculatā, concentricè rudè rugoso-liratā, anticè posticèque validè divaricatim plicatā.*

THE EQUIVOCAL CIRCE. Shell obliquely ovate, rather compressed, slightly truncated on the posterior side, fulvous white, waved or variously stained with ash-brown, generally reticulately spotted towards the margin, concentrically rudely wrinkle-ridged, strongly divaricately plicated on the anterior and posterior sides.

Venus æquivoca, Chemnitz, Conch. Cab. vol. ii. p. 229. pl. 202. f. 1980.

Circe æquivoca, Deshayes.

Circe transversaria, Deshayes.

Hab. Philippine Islands; Cuming.

The divaricate plications of this prettily painted species, crossing the concentric ridges nearly throughout, give the shell a crisply granular appearance.

Species 23. (Fig. *a, b, c, d*, Mus. Cuming.)

CIRCE DIVARICATA. *Circ. testā oblongo-ovali, ad latus posticum obliquè productā vel attenuatā, convexā, interdum gibbosiusculā, crassā, fulvescente-albā, cinereo et rufo-castaneo variè angulato-maculatā, maculis interruptè radiantibus, concentricè irregulariter obtusè liratā, undique validè divaricatim plicatā, ad decussationem plus minus conspicuè granulatā.*

THE DIVARICATE CIRCE. Shell oblong-oval, obliquely produced or attenuated on the posterior side, convex, sometimes rather gibbous, thick, fulvous white, variously angularly blotched with ash and reddish-chestnut, blotches interruptedly radiating, concentrically irregularly obtusely ridged, strongly divaricately plicated throughout, more or less conspicuously granulated at the crossing.

Venus divaricata, Chemnitz, Conch. Cab. vol. vi. p. 317. pl. 30. f. 316.

Cytherea divaricata, Lamarck.

Cytherea testudinalis, Lamarck.

Venus discors, Schröter.

Circe divaricata, Gray.

Hab. Red Sea; Philippine Islands.

The four specimens of this well-known species here figured tolerably represent the range of its numerous varieties. It may be regarded as the type of the divaricately plicated forms of the genus.

Species 24. (Fig. *a, b*, Mus. Cuming.)

CIRCE DISPAR. *Circ. testā oblongo-ovali, compressiusculā, fulvescente-albā, maculis rufo-aurantiis vel purpurascens subprofusè marmoratā, concentricè irregulariter rudè liratā, divaricatim plicatā, plicis posticis multo validioribus.*

THE UNLIKE CIRCE. Shell oblong-oval, rather compressed, fulvous white, rather profusely mottled with reddish-orange or purple spots, concentrically irregularly rudely ridged, divaricately plicated, posterior plaits much the stronger.

Venus dispar, Chemnitz, Conch. Cab. vol. ii. p. 230. pl. 202. f. 1981, 1982.

Cytherea muscaria, Lamarck.

Cytherea pulicaris, Lamarck.

Cytherea dispar, Hanley.

Circe dispar, Gray.

Hab. Red Sea.

One of the most obvious characteristics of this species is its mottled painting of reddish-orange or purple dots.

Species 25. (Mus. Cuming.)

CIRCE NUMMULINA. *Circ. testā obliquè trigono-orbiculari, subcuneiformi, crassā, fulvescente-lacteā, lunulā et areā ligamenti livido-purpurascens, concentricè tenuiliratā, versus umbones subcompressā et indistinctè divaricatim plicatā.*

THE COIN-LIKE CIRCE. Shell obliquely triangularly orbicular, somewhat wedge-shaped, thick, fulvous cream-colour, lunule and ligamentary area livid purple, concentrically finely ridged, compressed and faintly divaricately plicated towards the umboes.

Cytherea nummulina, Lamarck, Anim. sans vert. vol. vi. p. 321.

Circe nummulina, Gray.

Hab. Central America.

Of an obtuse wedge-like form, rather obsoletely sculptured, and but slightly coloured.

The first question of this case is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The second question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The third question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The fourth question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The fifth question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The sixth question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The seventh question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The eighth question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The ninth question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The tenth question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.

The eleventh question is whether the defendant is entitled to a judgment of acquittal as a matter of law. The answer to this question is no.



26.



27. a.



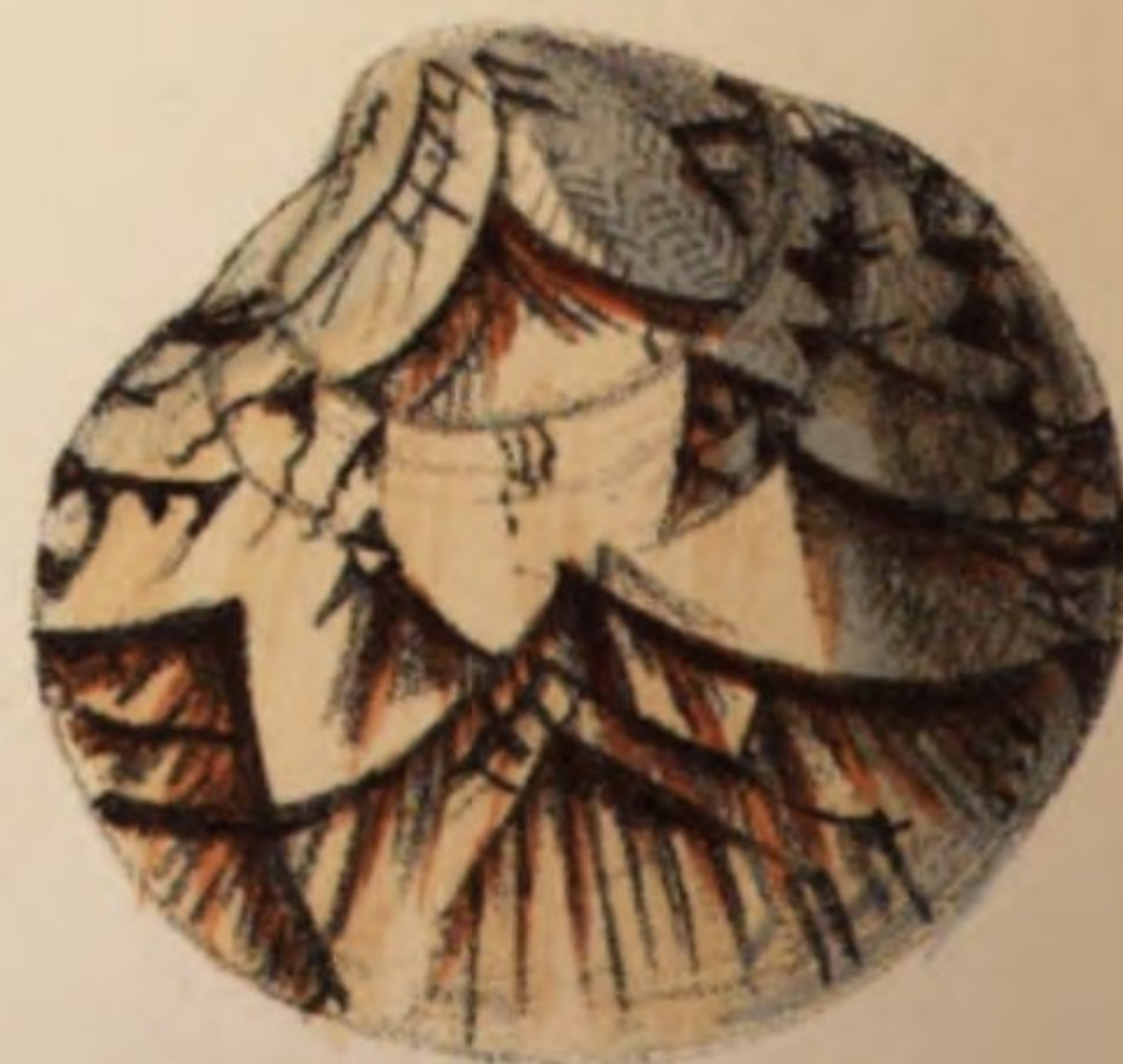
27. b.



28. a.



28. b.



28. c.



28. d.

CIRCE.

PLATE VII.

Species 26. (Mus. Taylor.)

CIRCE INTERMEDIA. *Circ. testā subobliquè globosā, crassā, ad umbones compressā, fulvescente-albā, rufo-castaneo trigono-reticulatā, maculis versus lunulam et aream ligamenti in strigis conspicuis decurrentibus, concentricè subrugosè plicato-striatā, ad umbones subobsoletè divaricatim plicatā.*

THE INTERMEDIATE CIRCE. Shell rather obliquely globose, thick, compressed at the umboes, fulvous white, triangularly reticulated with reddish-chestnut, the spots running towards the lunule and ligamentary area into conspicuous streaks, concentrically somewhat roughly plicately striated, at the umboes rather obsoletely divaricately plicated.

This appears to me to be a new species, and one of importance in the genus, as being intermediate between the types of the two groups in this and the preceding Plates. My attention was first called to the shell by Mr. Sowerby, who was preparing to send it to Mr. Taylor. On receipt of it, Mr. Taylor found in his collection another undoubted specimen in an earlier stage of growth. It helps to confirm in a singular manner the propriety of removing to this genus the Lamarckian *Cytherea castrensis* and its allies. Along with the reticulated camp-like painting of *C. castrensis*, it possesses the divaricate umbonal wrinkles of *C. divaricata* and its numerous allies, to say nothing of the absence of any angular production of the pallial impression in the interior.

Species 27. (Fig. a, b, c, Mus. Cuming.)

CIRCE ORNATA. *Circ. testā subtrigono-rotundatā, gibbosā, subcordatā, cinereā, versus umbones albidā, lineis nigris aut rufis acutè undatis undique profusè radiatā, concentricè irregulariter striatā, striis ad latera fortioribus.*

THE ADORNED CIRCE. Shell somewhat triangularly rounded, gibbous, somewhat heart-shaped, ash-co-

loured, whitish towards the umboes, profusely rayed throughout with black or red zigzag lines, concentrically irregularly striated, striæ stronger at the sides.

Cytherea ornata, Lamarck, Anim. sans vert. vol. vi. p. 309.

Circe castrensis var., Deshayes.

Lioconcha ornata, Morch.

Hab. Indian Ocean.

M. Deshayes is probably correct in recording the Lamarckian *C. ornata* as a variety of *C. castrensis*, but it is a very characteristic variety and it is of a less solid porcelain-like substance.

Species 28. (Fig. a, b, c, Mus. Cuming.)

CIRCE CASTRENSIS. *Circ. testā subtrigono-globosā, vel cordatā, albā, nitente, interdum cinereo vel croceo tinctā, lineis vel maculis castaneis aut nigris acutè angulatis plus minus suffusis pictā, concentricè irregulariter striatā, interdum læviusculā, striis ad latera fortioribus.*

THE CAMP CIRCE. Shell somewhat triangularly globose or heart-shaped, white, shining, sometimes ash- or saffron-tinged, painted with more or less suffused chestnut or black sharply angled lines or spots, concentrically irregularly striated, sometimes almost smooth, striæ stronger at the sides.

Venus castrensis, Linnæus, Syst. Nat., p. 1132.

Venus australis, Chemnitz.

Venus Lorenziana, Chemnitz.

Cytherea castrensis, Lamarck.

Circe castrensis, Gray.

Lioconcha castrensis, Morch.

Hab. Indian Ocean.

Among the varieties of this beautiful species, the shell represented at Fig. 28 b is that which passes into *C. ornata*. It is broader from the umboes to the ventral margin, and has less of the smooth porcelain surface which is so characteristic a feature of the other varieties.



30.



29.a.



31.



29.b.



32.a.



32.b.



32.c.



33.



34.



35.

CIRCE.

PLATE VIII.

Species 29. (Fig. *a, b*, Mus. Cuming.)

CIRCE SOWERBYI. *Circ. testā trigono-rotundatā vel ovatā, turgidā, fulvescente-albā, castaneo-rufo tenuē acutē undatā, concentricē confertim striato-liratā, liris obtusis.*

SOWERBY'S CIRCE. Shell triangularly rounded or ovate, swollen, fulvous white, finely sharply waved with chestnut-red, concentrically closely striately ridged, ridges obtuse.

DESHAYES, Cat. Conch. Brit. Mus. p. 95.

Cytherea Hebræa, Sowerby (not of Lamarck).

Hab. Philippine Islands.

This pretty species runs very closely into *C. tigrina*. If a variety, it is a very characteristic one.

Species 30. (Mus. Cuming.)

CIRCE MARMORATA. *Circ. testā ovatā, subcompressā, livido-cærulescente, olivaceo-rufo reticulato-marmoratā, lunulā et areā ligamenti plumbeis, umbonibus purpurascēte radiatis, concentricē obtusē striato-liratā, posticē et circa umbones profusē tenuē divaricatim plicatā.*

THE MARBLED CIRCE. Shell ovate, rather compressed, livid bluish, reticulately marbled with olive-red, lunule and ligamentary area lead-colour, umboes rayed with faint purple, concentrically obtusely striately ridged, posteriorly and around the umboes profusely finely divaricately plicated.

Hab. —?

Apparently a new species, fully characterized, as may be seen by the foregoing description, both in respect of sculpture and colour.

Fig. 31. (Mus. Cuming.)

The shell here figured proves to be an interesting variety of *C. elliptica*, described at Plate X. Species 48.

Species 32. (Fig. *a, b, c*, Mus. Cuming.)

CIRCE TIGRINA. *Circ. testā subtrigono-ovatā, posticē attenuato-productā, versus umbones turgidā, albidā, castaneo-rufo aut nigricante-brunneo profusē reticulato-marmoratā, medio læviusculā, ad latera concentricē striato-liratā, liris obtusis, irregulariter corrugatis.*

THE TIGER CIRCE. Shell somewhat triangularly ovate, attenuately produced on the posterior side, swollen towards the umboes, whitish, profusely reticulately mottled with chestnut-red or dark-brown, rather smooth in the middle, concentrically striately ridged at the sides, ridges obtuse, irregularly wrinkled.

Cytherea tigrina, Lamarck, Anim. sans vert. vol. vi. p. 310.

Circe tigrina, Deshayes.

Hab. Molucca and Philippine Islands.

Strikingly characterized by its reticulately mottled painting. The shell, which has invariably a tendency to become attenuated on the posterior side, is comparatively smooth in the middle, the sides being obtusely irregularly wrinkle-striated.

Species 33. (Mus. Cuming.)

CIRCE TRIMACULATA. *Circ. testā obliquē cordatā, posticē curvatā, albā, castaneo-brunneo profusē tinctā et radiatā, lunulā et areā ligamenti intensē brunneis, undique concentricē lirato-striatā, striis obtusis, irregulariter corrugatis.*

THE THREE-SPOTTED CIRCE. Shell obliquely heart-shaped, curved posteriorly, white, profusely stained and rayed with chestnut-brown, lunule and ligamentary area dark-brown, concentrically ridge-striated throughout, striæ obtuse, irregularly wrinkled.

Cytherea trimaculata, Lamarck, Anim. sans vert. vol. vi. p. 313.

Circe trimaculata, Deshayes.

Hab. Philippine Islands; Cuming.

Of a more curved heart-shaped form than the preceding species, sculptured throughout.

Species 34. (Mus. Cuming.)

CIRCE HEBRÆA. *Circ. testā ovatā, turgidā, posticē sub-*

truncatâ, fulvescente-albâ, rufo-castaneo sparsim reticulatâ, concentricè subobsoletè striatâ.

THE HEBREW CIRCE. Shell ovate, swollen, posteriorly slightly truncated, fulvous white, sparingly reticulated with reddish-chestnut, concentrically rather obsoletely striated.

Cytherea Hebræa, Lamarck, Anim. sans vert. vol. vi. p. 308.

Dione Hebræa, Deshayes.

Hab. —?

This shell partakes very much of the characters of *Dione*, and should, perhaps, be referred to that genus.

Species 35. (Mus. Cuming.)

CIRCE FUMATA. *Circ. testâ oblongo-ovatâ, compressè convexâ, fulvescente-albâ, ustulato-castaneo copiosè reticulatâ et nebulatâ, concentricè densè filo-striatâ, striis versus marginem obtusè corrugatis.*

THE SMOKED CIRCE. Shell oblong-ovate, compressly convex, fulvous white, copiously reticulated and clouded with burnt-chestnut, concentrically densely thread-striated, striæ obtusely wrinkled towards the margin.

Hab. —?

Of a distinct convexly oval form, peculiarly clouded and reticulately streaked with burnt-chestnut.



36.



37.



38.



39.



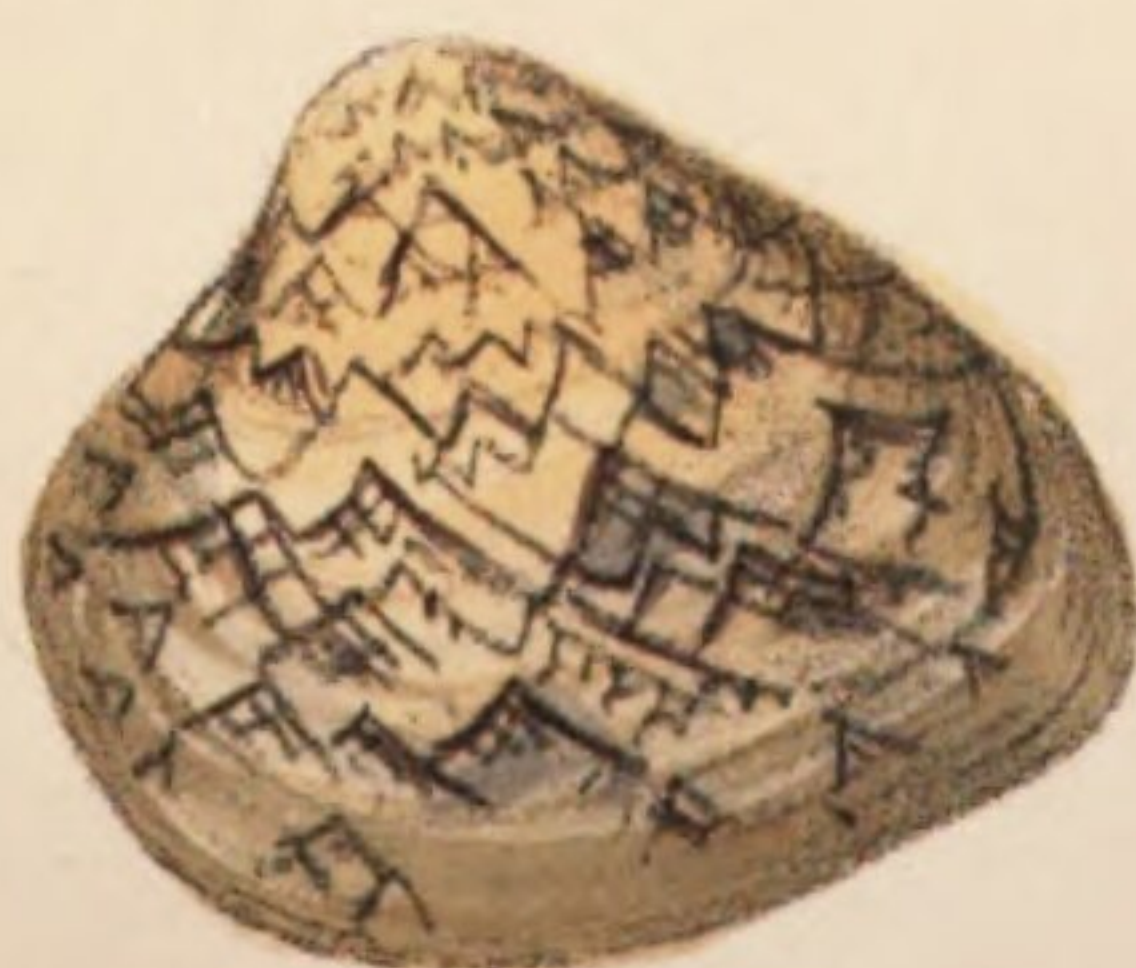
40. a.



40. b.



41.



42. a.



42. b.



43.

CIRCE.

PLATE IX.

Species 36. (Mus. Cuming.)

CIRCE FLUCTUATA. *Circ. testâ globoso-cordatâ, tenuiculâ, turgidâ, albidâ, rufo-fusco prope umbones pallidè reticulatâ, undique concentricè densè filo-striatâ.*

THE WAVED CIRCE. Shell globosely heart-shaped, rather thin, swollen, whitish, faintly reticulated near the umboes with red-brown, concentrically densely thread-striated throughout.

Cytherea fluctuata, Sowerby, Thes. Conch. vol. i. p. 634. pl. 136. f. 185, 186,

Dione fluctuata, Deshayes.

Hab. St. Helena.

A small thread-striated swollen globose shell, partaking of the generic characters both of *Dione* and *Circe*.

Species 37. (Mus. Cuming.)

CIRCE MANILLÆ. *Circ. testâ obliquè cordatâ, turgidâ, posticè flexuoso-attenuatâ, albidâ, concentricè densè filo-striatâ, lunulâ amplâ.*

THE MANILLA CIRCE. Shell obliquely heart-shaped, swollen, posteriorly flexuously attenuated, white, concentrically densely thread-striated, lunule large.

Cytherea Manillæ, Sowerby, Thes. Conch. vol. i. p. 634. pl. 136. f. 180, 181.

Dione Manillæ, Deshayes.

Hab. Manilla, Island of Luzon, Philippines; Cuming.

Allied to the preceding species, but with the posterior side flexuously attenuated.

Species 38. (Mus. Cuming.)

CIRCE RUDIS. *Circ. testâ obliquè cordatâ, turgidâ, fulvescente-albâ, ferrugineo-rufo tinctâ et radiatâ, concentricè tenuè filo-striatâ, striis in medio plus minus obsoletis.*

THE RUDE CIRCE. Shell obliquely heart-shaped, swollen, fulvous white, stained and rayed with rust-red, concentrically finely thread-striated, striæ more or less obsolete in the middle.

Venus rudis, Poli, Test. utr. Sicil. vol. ii. p. 40. pl. 20. f. 15, 16.

Cytherea Venetiana, Lamarck.

Dione rudis, Deshayes.

Hab. Mediterranean.

The thread-like striæ of this species are comparatively obsolete in the middle of the shell towards the umboes.

Species 39. (Mus. Cuming.)

CIRCE VARIANS. *Circ. testâ suboblongo-ovatâ, anticè cordatâ, posticè subproductâ, tenui, ventricosâ, fulvescente-lacteâ, maculis ferrugineo-rufis radiatâ, lunulâ et areâ ligamenti maculatis, concentricè densè filo-striatâ.*

THE VARYING CIRCE. Shell rather oblong-ovate, anteriorly heart-shaped, posteriorly rather produced, thin, ventricose, fulvous cream-colour, rayed with rust-red spots, lunule and ligamentary area spotted, concentrically densely thread-striated.

Cytherea varians, Wood, Ind. Test. Supp. pl. 15. f. 33.

Cytherea rubiginosa, Philippi.

Dione varians, Deshayes.

Hab. — ?

This and the three preceding species represent by their affinity to *Dione læta* on the one side and *Circe sulcatina* on the other, the connection between the two genera.

Species 40. (Fig. a, b, Mus. Cuming.)

CIRCE SULCATINA. *Circ. testâ trigono-cordatâ, plus minus turgidâ, solidiusculâ, fulvescente-lacteâ, castaneo-rufo variè pictâ, medio lævigatâ, ad latera corrugato-striatâ.*

THE FINELY-GROOVED CIRCE. Shell triangularly heart-shaped, more or less swollen, rather solid, fulvous cream-colour, variously painted with chestnut-red, smooth in the middle, wrinkle-striated at the sides.

Cytherea sulcatina, Lamarck, Anim. sans vert. vol. vi. f. 308.

Circe sulcatina, Deshayes.

Hab. Philippine Islands; Cuming.

Extremely variable in painting, which is sometimes disposed in rays sometimes in concentrically waved lines.

Species 41. (Mus. Cuming.)

CIRCE FASTIGIATA. *Circ. testá subtrigono-ovatá, posticè subattenuato-productá, fulvâ vel rufescente-albâ, nigricante-castaneo conspicuè angulatim maculatâ, concentricè corrugato-striatâ, striis rudibus, irregularibus.*

THE POINTED CIRCE. Shell somewhat triangularly ovate, posteriorly slightly attenuately produced, fulvous or reddish-white, conspicuously angularly blotched with dark-chestnut, concentrically wrinkle-striated, striæ rude, irregular.

Cytherea fastigiata, Sowerby, Thes. Conch. vol. i. p. 643. pl. 135. f. 158, 159.

Circe fastigiata, Deshayes.

Hab. Sydney, New Holland.

Strongly resembling *C. castrensis* in painting, but constantly distinct in form and uniform size.

Species 42. (Fig. a, b, Mus. Cuming.)

CIRCE PICTA. *Circ. testá trigono-ovatâ, posticè attenuato-productâ, albâ, lineis nigricante-castaneis angulatim reticulatâ, concentricè filo-striatâ, striis ad latera interdum corrugatis.*

THE PAINTED CIRCE. Shell triangularly ovate, posteriorly attenuately produced, white, angularly reti-

culated with dark-chestnut lines, concentrically thread-striated, striæ sometimes wrinkled at the sides.

Cytherea picta, Lamarck, Anim. sans vert. vol. vi. p. 569.

Circe picta, Gray.

Hab. Indian Ocean.

Elegantly reticulated with an angular textile of dark-chestnut, more or less open in its distribution.

Species 43. (Mus. Cuming.)

CIRCE HIEROGLYPHICA. *Circ. testâ trigono-ovatâ, compressâ, posticè attenuato-productâ, albâ, maculis nigricante-castaneis triangularibus aspersâ, medio lævigatâ, ad latera corrugato-striatâ.*

THE HIEROGLYPHIC CIRCE. Shell triangularly ovate, compressed, posteriorly attenuately produced, white, sprinkled with triangular blotches of dark-chestnut, smooth in the middle, wrinkle-striated at the sides.

Meretrix hieroglyphica, Conrad, Journ. Acad. Nat. Sci. Philadelphia, vol. vii. p. 253. pl. 19. f. 22.

Cytherea hieroglyphica, Sowerby.

Hab. — ?

This is closely allied to *C. fastigiata*, but it is characterized by a much more delicate growth, while the painting is peculiar.



44.b.



44.a.



44.c.



45.a.



45.b.



46.



45.c.



47.



48.



49.

CIRCE.

PLATE X.

Species 44. (Fig. *a, b, c*, Mus. Cuming.)

CIRCE ARABICA. *Circ. testâ ovatâ vel obliquè orbiculari, posticè subquadratâ, crassâ, fulvâ aut cærulescente-albâ, rufo-fusco obscure biradiatâ et punctato-aspersâ, concentricè irregulariter callosè lirato-striatâ.*

THE ARABIC CIRCE. Shell ovate or obliquely orbicular, posteriorly somewhat square, thick, fulvous or bluish-white, obscurely two-rayed and dot-sprinkled with red-brown, concentrically irregularly callously ridge-striated.

Venus Arabica, Chemnitz, Conch. Cab. vol. ii. p. 224. pl. 201. f. 1968-70.

Cytherea Arabica, Lamarck.

Circe Arabica, Gray.

Hab. Red Sea; Madagascar.

Variable in form, but mostly distinguished by a dot-sprinkled colouring.

Species 45. (Fig. *a, b, c*, Mus. Cuming.)

CIRCE LENTIGINOSA. *Circ. testâ ovatâ vel oblongo-ovatâ, crassâ, albidâ, griseo et ferrugineo-fusco variè lentiginosâ, concentricè rudè corrugato-liratâ, liris in medio interdum obsoletis.*

THE FRECKLED CIRCE. Shell ovate or oblong-ovate, thick, whitish, variously freckled with grey and rust-brown, concentrically rudely wrinkle-ridged, ridges sometimes obsolete in the middle.

Venus lentiginosa, Chemnitz, Conch. Cab. vol. ii. p. 223. pl. 202. f. 1963, 1964.

Cytherea Pfeifferi, Philippi.

Circe liturata, Gray.

Circe lentiginosa, Deshayes.

Hab. Red Sea; Indian Ocean.

This species varies greatly in form, colour, and sculpture. The three specimens selected for illustration represent its extremest variations.

Species 46. (Mus. Cuming.)

CIRCE PULCHRA. *Circ. testâ oblongo-ovatâ, crassâ, convexâ, posticè subangustâ, violaceo-griseâ, ustulato-castaneo latè biradiatâ, medio lævigatâ, ad latera corrugato-striatâ.*

THE BEAUTIFUL CIRCE. Shell oblong-ovate, thick, convex, posteriorly rather narrow, violet-grey, broadly two-rayed with burnt-chestnut, smooth in the middle, wrinkle-striated at the sides.

DESHAYES, Pro. Zool. Soc. 1853, p. 6.

Cytherea elegans, Sowerby (not of Koch).

Hab. Red Sea.

The colouring of this species is strongly marked; if permanent, it is highly characteristic.

Species 47. (Mus. Cuming.)

CIRCE ABBREVIATA. *Circ. testâ rotundato-ovatâ, anticè abbreviatâ, fulvescente-lacteâ, ferrugineo-rufo sparsim undatâ, concentricè undique regulariter lirâtâ et striatâ.*

THE SHORTENED CIRCE. Shell rotundately ovate, shortened on the anterior side, fulvous cream-colour, sparingly waved with rust-red, concentrically regularly ridged and striated throughout.

Cytherea abbreviata, Lamarck, Anim. sans vert. vol. vi. p. 322.

Circe abbreviata, Deshayes.

Hab. — ?

This passes very close to the variety of *C. lentiginosa*, represented above it at Fig. 45 *b*.

Species 48. (Mus. Cuming.)

CIRCE ELLIPTICA. *Circ. testâ elliptico-ovatâ, posticè subquadratâ, fulvescente-spadiceâ, livido-griseo tinctâ, purpureo-castaneo sparsim maculatâ, umbonibus carneo-tinctis, ad latera lirato-corrugatâ.*

THE ELLIPTIC CIRCE. Shell elliptically ovate, posteriorly somewhat square, fulvous bay, tinged with livid grey, sparingly blotched with purple chestnut, umboes flesh-tinged, wrinkle-ridged at the sides.

Cytherea elliptica, Sowerby, Thes. Conch. vol. i. p. 645. pl. 135. f. 174, 175.

Circe Callipyga, var., Deshayes.

Hab. — ?

This shell and the shell represented at Plate VIII. Fig. 31, appear to me to confirm Mr. Sowerby's view, that it is a species distinct from *C. Callipyga*.

CIRCE.—PLATE X.

Species 49. (Mus. Cuming.)

CIRCE CALLIPYGA. *Circ. testā oblongo-ovatā, compressiusculā, fulvescente-albā, rufescente-fusco variè nebulatā, concentricè rudè irregulariter corrugato-liratā.*

THE CALLIPYGA CIRCE. Shell oblong-ovate, rather compressed, fulvous white, variously clouded with red-brown, concentrically irregularly rudely wrinkle-ridged.

Venus Callipyga, Born, Mus. Vind. p. 68. pl. 5. f. 1.

Cytherea Callipyga, Sowerby.

Cytherea Adenensis, Philippi.

Circe Callipyga, Deshayes.

Hab. Red Sea.

This, like *C. lentiginosa*, is also extremely variable. The two species almost pass, indeed, one into the other.

MONOGRAPH

OF THE GENUS

CYTHEREA.

~~~~~  
"Dost thou love pictures? we will fetch thee straight  
Adonis, painted by a running brook,  
And Cytherea all in sedges hid."—*Shakespeare*.  
~~~~~


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MONOGRAPH

ON THE

CYTHERA.

By
John D. Kingsley
and
Charles D. Walcott

CYTHERA.

	Plate.	Species.		Plate.	Species.
ambigua (<i>Trigona</i>), Deshayes	IX.	37	Lamarckii (<i>Meretrix</i>), Deshayes. . .	III.	8
angulifera (<i>Trigona</i>), Gray	X.	41	laevigata (<i>Trigona</i>), Gray	V.	15
argentina, Sowerby.	IV.	11	Lessoni (<i>Donax</i>), Deshayes	VIII.	34
astricta, Reeve	VII.	26	lusoria (<i>Meretrix</i>), Rumphius	VI.	20
bicolor (<i>Trigona</i>), Gray.	VI.	23	lyrata, Sowerby	IV.	13
<i>Byronensis</i> (<i>Trigona</i>), Gray	VII.	27	Mactroides (<i>Venus</i>), Born	V.	18
casta (<i>Venus</i>), Chemnitz	VII.	25	<i>meretrix</i> , Lamarck.	III.	10
castanea, Lamarck.	II.	6	morphina, Lamarck	IV.	12
compressa, Sowerby	VIII.	32	nitidula, Lamarck	X.	44
corbicula (<i>Venus</i>), Born	V.	18	nubila, Reeve.	VII.	28
corpulenta, Gray	IX.	38	ovum, Hanley	VI.	19
Crassatelloides (<i>Trigona</i>), Conrad . .	I.	3	petechialis, Lamarck	II.	7
damaoides (<i>Venus</i>), Gray	I.	4	Philippinarum, Hanley	X.	47
Dillwyni (<i>Trigona</i>), Deshayes	VII.	24	planulata, Broderip and Sowerby . .	VIII.	34
dolabella, Sowerby	I.	2	polita, Sowerby	IX.	36
exilis (<i>Meretrix</i>), Deshayes	IX.	35	ponderosa, Hanley	II.	5
formosa, Sowerby	IV.	14	radiata, Sowerby	VII.	27
fulminata, Philippi	IX.	40	<i>Salangensis</i> (<i>Venus</i>), D'Orbigny . .	VII.	27
fumea, Reeve	X.	48	stultorum (<i>Trigona</i>), Gray	VI.	22
Gouldii, Reeve	X.	43	trigona, Dunker.	VII.	29
gracilior, Sowerby.	VII.	27	trigonella, Lamarck	X.	41
graphica, Lamarck.	I.	1	tripla (<i>Venus</i>), Linnæus	V.	16
grata (<i>Meretrix</i>), Deshayes	X.	49	undulata, Sowerby.	VIII.	33
Hanleyana, Sowerby	X.	45	ventricosa (<i>Trigona</i>), Gray	V.	17
Hindsii, Hanley	IX.	39	vestita, Reeve	VI.	21
impudica, Lamarck	III.	10	virginea, Adams and Reeve	VIII.	30
incerta, Sowerby.	X.	42	zonaria, Lamarck	III.	9
intermedia, Sowerby	VIII.	31			



1.



2.



3.



4.a.

Sowerby, del. et lith.



4.b

Vincent Brooks, imp.

CYTHEREA.

PLATE I.

Genus CYTHEREA, Lamarck.

Testa subtrigono-ovata, plus minus turgida, crassiuscula, lævigata, rarissimè sculpta, marginibus integris. Cardo in utrâque valvâ tridentatus, dente antico subremoto, lateraliter compresso. Impressio pallii posticè vix sinuata.

Shell somewhat triangularly ovate, more or less turgid, rather thick, smooth, very rarely sculptured, margins entire. Hinge in each valve three-toothed, anterior tooth rather distant, laterally compressed. Impression of the mantle scarcely sinuated posteriorly.

Unwilling to give up the well-known generic name of *Cytherea*, it is here used for the characteristic group of smooth *Veneridæ*, of which the Lamarckian *C. petechialis*, *impudica*, and *meretrix* are examples, constituting the genus *Meretrix* of Dr. Gray, of M. Deshayes. With these are included the species, typified by the Linnæan *Venus tripla*, and separated by those authors under the head of *Trigona*. They are chiefly natives of China and the Philippine Islands. All of which we have any record of their habitation in the New World are six from Central America, two from West Indies, and two from California. None are reported from Australia or New Zealand. *C. tripla* is a native of Senegal. The only European *Cytherea* is *C. nitidula* of the Mediterranean.

Species 1. (Mus. Cuming.)

CYTHEREA GRAPHICA. *Cyth. testâ subtrigono-cordatâ, posticè subproductâ, flavescence-griseâ, notis fuscis hieroglyphicis profusè obliquè radiatâ, concentricè rugosâ.*

THE GRAPHIC CYTHEREA. Shell somewhat triangularly heart-shaped, posteriorly somewhat produced, yellowish-grey, profusely obliquely rayed with brown hieroglyphic marks, concentrically rugose.

LAMARCK, Anim. sans vert. vol. vi. p. 300.

Meretrix graphica, Deshayes.

Hab. Sumatra.

Distinguished among other characters by the numerous rays of hieroglyphic marks.

Species 2. (Mus. Cuming.)

CYTHEREA DOLABELLA. *Cyth. testâ acutè trigonâ, compressâ, violaceo-lacteâ, epidermide corneâ fulvo-olivaceâ*

nitente indutâ, latere postico conspicuè arcuato-producto.

THE LITTLE HATCHET CYTHEREA. Shell sharply triangular, compressed, violet cream-colour, covered with a shining fulvous-olive horny epidermis, posterior side conspicuously arcuately produced.

SOWERBY, Thes. Conch. vol. i. p. 619. pl. 127. f. 19.

Hab. Red Sea.

This and the preceding species represent the extreme forms of the genus as indicated by the subgeneric titles *Trigona* and *Meretrix*. It will be seen that in *C. graphica* the posterior margin is convex, while in *C. dolabella* it is absolutely concave.

Species 3. (Mus. Cuming.)

CYTHEREA CRASSATELLOIDES. *Cyth. testâ obliquè ovatâ, suboblongâ, modicè trigonâ, crassâ, ponderosâ, ventricosâ, epidermide corneâ crassâ indutâ, epidermide lacteâ, purpureo-violaceo radiatâ.*

THE CRASSATELLA-LIKE CYTHEREA. Shell obliquely ovate, rather oblong, moderately triangular, thick, heavy, ventricose, covered with a thick horny epidermis, epidermis cream-colour, rayed with purple-violet.

Trigona Crassatelloides, Conrad, Ann. Nat. Sci. Philadelphia, vol. vii. p. 253. pl. 19. f. 17.

Cytherea Crassatelloides, Hanley.

Cytherea (Trigonella) Crassatelloides, Hinds.

Hab. Bay of California.

The colouring of this species resides in the horny epidermis, with which the shell is entirely enveloped.

Species 4. (Fig. a, b, Mus. Cuming.)

CYTHEREA DAMAOIDES. *Cyth. testâ compressè cuneiformi, posticè arcuato-acuminatâ, solidiusculâ, flavescence-spadiceâ, interdum carneo-fusco radiatâ, interdum griseo profusè undato-punctatâ.*

THE DEER-LIKE CYTHEREA. Shell compressly wedge-shaped, posteriorly arcuately acuminate, rather solid, yellowish fawn-colour, sometimes rayed with flesh-brown, sometimes profusely wave-dotted with grey.

Venus damaoides, Gray, Wood Ind. Test. Supp. pl. 2. f. 17.

Cytherea damaoides, Hanley.

Trigona damaoides, Gray.

Hab. — ?

A solid compressed *Donax*-shaped shell, in which the colouring is extremely variable.

Genus CYTHEREA, Latreille.

This subgenus is distinguished by the following characters: The valves are moderately convex, the surface is smooth, and the hinge is not elevated. The spondylium is small, and the muscle scar is not distinct. The ligament is not elevated. The spondylium is small, and the muscle scar is not distinct. The ligament is not elevated.

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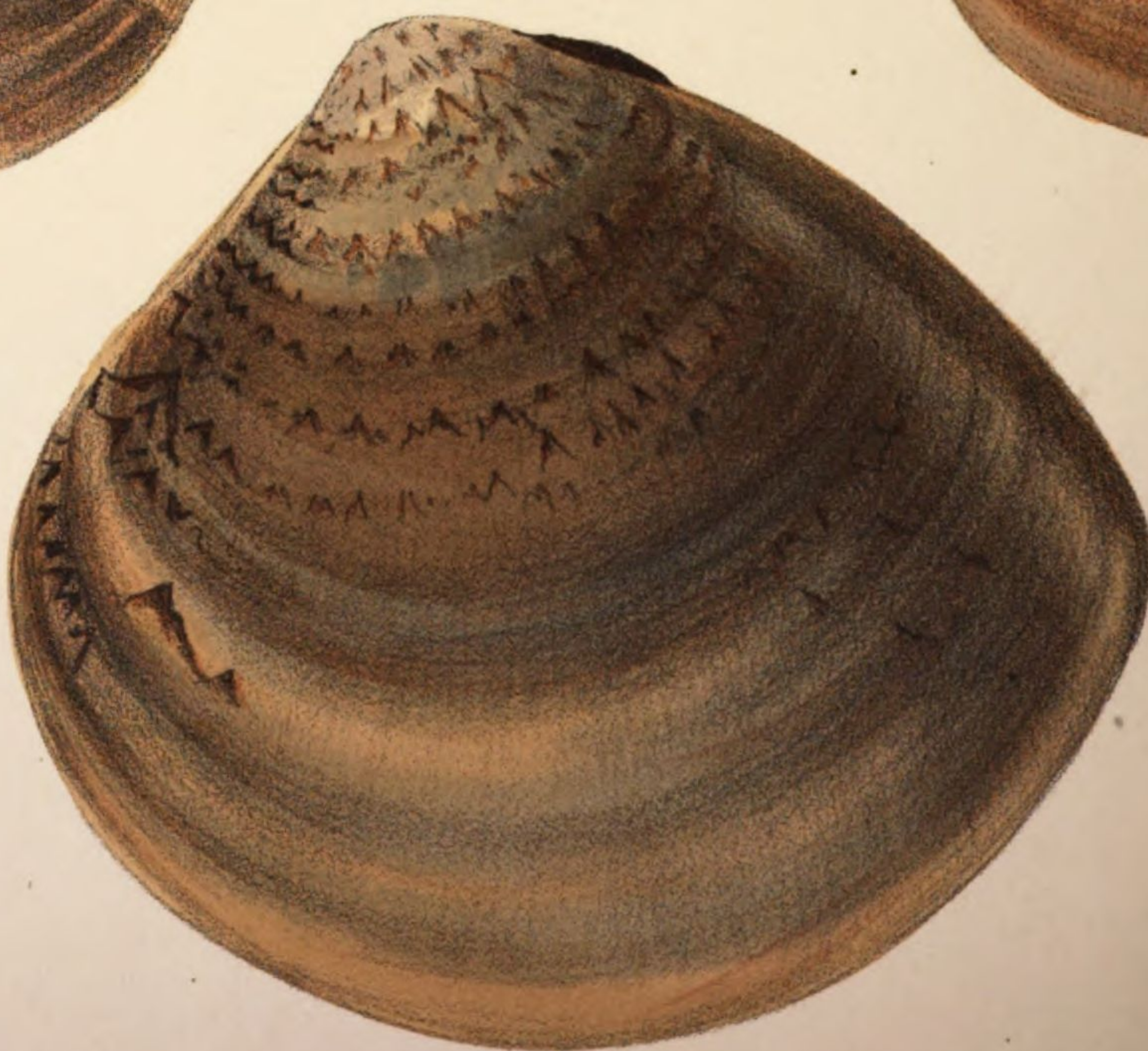
5.



7.a.



6.



7.b.

CYTHEREA.

PLATE II.

Species 5. (Mus. Cuming.)

CYTHEREA PONDEROSA. *Cyth. testâ subquadrato-trigonâ, crassâ, ponderosâ, sordidè lacteâ, roseo-purpurascente pallidè radiatâ, læviusculâ, nitente, concentricè rugosâ, areâ ligamenti latiusculâ.*

THE HEAVY CYTHEREA. Shell somewhat squarely triangular, thick, heavy, dull cream-colour, faintly rayed with rose-purple, nearly smooth, shining, concentrically rugose, ligamentary area rather broad.

HANLEY, Descr. Cat. p. 107.

Trigona damaoides, var., Deshayes.

Hab. ——?

M. Deshayes quotes this species as a variety of *C. damaoides*, which is a distinct form of uniformly smaller size.

Species 6. (Mus. Cuming.)

CYTHEREA CASTANEA. *Cyth. testâ ovato-cordatâ, posticè obliquè productâ, crassâ, lævigatâ, nitente, pallidè castaneâ, violaceo pallidè radiatâ, latere postico violaceo tincto, marginibus albis.*

THE CHESTNUT CYTHEREA. Shell ovately heart-shaped, posteriorly obliquely produced, thick, smooth, shining, light chestnut, faintly rayed with violet, posterior side stained with violet, margins white.

LAMARCK, Anim. sans vert. vol. vi. p. 299.

Meretrix castanea, Deshayes.

Hab. China.

There is a variety of this species in which the chestnut colouring is replaced by pale yellow.

Species 7. (Mus. Cuming.)

CYTHEREA PETECHIALIS. *Cyth. testâ subtrigono-ovatâ, fulvescente-lacteâ, maculis undatis nigricante-fuscis concentricè nebulatâ, latere postico obliquè curvato, lævigatâ, epidermide corneâ nitente indutâ.*

THE PETECHIAL CYTHEREA. Shell somewhat triangularly ovate, fulvous cream-colour, concentrically clouded with dark-brown zigzag marks, posterior side obliquely curved, smooth, covered with a shining horny epidermis.

LAMARCK, Anim. sans vert. vol. vi. p. 229.

Meretrix petechialis, Deshayes.

Hab. China.

A species characterized by concentrically clouded and zigzag dark-coloured markings, which no doubt suggested the specific name to Lamarck, from their resemblance to "petechiæ," or spots on the skin in some virulent forms of fever.

January, 1864.

CYTHERA.

Plate II.

Species 2. (Plate II.)

Length 1.5 mm. Width .5 mm. Height .5 mm. Color white. Shell smooth. Hinge smooth. Muscle scar smooth. Ligament smooth. Adductor scar smooth. Pedicle smooth. Siphon smooth. Gills smooth. Heart smooth. Kidney smooth. Liver smooth. Stomach smooth. Intestine smooth. Malpighian tubules smooth. Nerve cord smooth. Brain smooth. Heart smooth. Kidney smooth. Liver smooth. Stomach smooth. Intestine smooth. Malpighian tubules smooth. Nerve cord smooth. Brain smooth.

Species 3. (Plate II.)

Length 1.5 mm. Width .5 mm. Height .5 mm. Color white. Shell smooth. Hinge smooth. Muscle scar smooth. Ligament smooth. Adductor scar smooth. Pedicle smooth. Siphon smooth. Gills smooth. Heart smooth. Kidney smooth. Liver smooth. Stomach smooth. Intestine smooth. Malpighian tubules smooth. Nerve cord smooth. Brain smooth.

Species 4. (Plate II.)

Length 1.5 mm. Width .5 mm. Height .5 mm. Color white. Shell smooth. Hinge smooth. Muscle scar smooth. Ligament smooth. Adductor scar smooth. Pedicle smooth. Siphon smooth. Gills smooth. Heart smooth. Kidney smooth. Liver smooth. Stomach smooth. Intestine smooth. Malpighian tubules smooth. Nerve cord smooth. Brain smooth.

Species 5. (Plate II.)

Length 1.5 mm. Width .5 mm. Height .5 mm. Color white. Shell smooth. Hinge smooth. Muscle scar smooth. Ligament smooth. Adductor scar smooth. Pedicle smooth. Siphon smooth. Gills smooth. Heart smooth. Kidney smooth. Liver smooth. Stomach smooth. Intestine smooth. Malpighian tubules smooth. Nerve cord smooth. Brain smooth.

Species 6. (Plate II.)

Length 1.5 mm. Width .5 mm. Height .5 mm. Color white. Shell smooth. Hinge smooth. Muscle scar smooth. Ligament smooth. Adductor scar smooth. Pedicle smooth. Siphon smooth. Gills smooth. Heart smooth. Kidney smooth. Liver smooth. Stomach smooth. Intestine smooth. Malpighian tubules smooth. Nerve cord smooth. Brain smooth.

Species 7. (Plate II.)

Species 8. (Plate II.)



8.



9.a.



9.b.



10.

CYTHEREA.

PLATE III.

Species 8. (Mus. Cuming.)

CYTHEREA LAMARCKII. *Cyth. testá trigono-ovatá, sub-oblongá, crassá, concentricè rugosá, flavescence-albá, violaceo pallidissimè latè radiatá, epidermide corneá fulvá partim indutá, lunulá vix nullá.*

LAMARCK'S CYTHEREA. Shell triangularly ovate, rather oblong, thick, concentrically rugose, yellowish-white, very faintly broadly rayed with violet, partially covered with a fulvous horny epidermis, scarcely any lunule.

Meretrix Lamarckii, Deshayes, Cat. Conch. Brit. Mus. p. 39.
Hab. China Seas.

Of a characteristic, oblong-oval form, with the faint violet rays very much diffused over the shell.

Species 9. (Fig. *a, b*, Mus. Cuming.)

CYTHEREA ZONARIA. *Cyth. testá trigono-ovatá, posticè subacuminato-productá, lævigatá, albidá, castaneo profusè concentricè lineari-undatá, epidermide corneá fulvá indutá, areá ligamenti concaviusculá, interdum lividá.*

THE GIRDLED CYTHEREA. Shell triangularly ovate, posteriorly somewhat acuminate produced, smooth, whitish, profusely concentrically linearly waved with chestnut, covered with a fulvous horny epidermis, ligamentary area slightly concave, sometimes livid.

LAMARCK, Anim. sans vert. vol. vi. p. 299.

Meretrix zonaria, Deshayes.

Hab. China and Japan.

This comes very near to certain forms of *C. petechialis*, and is possibly a variety of that species.

Species 10. (Mus. Cuming.)

CYTHEREA IMPUDICA. *Cyth. testá subtrigono-ovatá, posticè arcuato-productá, crassá, lævigatá, nitente, auran-
tio-lacteá, posticè livido-cinereá, circa umbones fusco punctatá, marginibus albis.*

THE IMMODEST CYTHEREA. Shell somewhat triangularly ovate, arcuately produced on the posterior side, thick, smooth, shining, orange cream-colour, livid-ash posteriorly, dotted with brown about the umboes, margins white.

LAMARCK, Anim. sans vert. vol. vi. p. 299.

Cytherea meretrix, Lamarck.

Meretrix impudica, Deshayes.

Hab. China and the Philippine Islands.

The warm and comparatively colourless tint of this shell is no unimportant character of the species. The livid-ash ligamentary area presents a conspicuous contrast.

January, 1864.



11.



12.



13.



14.

CYTHEREA.

PLATE IV.

Species 11. (Mus. Cuming.)

CYTHEREA ARGENTINA. *Cyth. testā trigonā, medio tumidā, ad basin rotundatā, utrinque subacuminatā, lævigatā, flavescēte-albā, epidermide fulvā corneā indutā.*

THE SILVERY CYTHEREA. Shell triangular, tumid in the middle, rounded at the base, somewhat acuminate on either side, smooth, yellowish-white, covered with a fulvous horny epidermis.

SOWERBY, Pro. Zool. Soc. 1835, p. 46.

Trigona argentina, Deshayes.

Hab. Central America.

The shell of this species is not unfrequently covered by a soft, velvety, chalk-white tissue, resembling a fungus.

Species 12. (Mus. Cuming.)

CYTHEREA MORPHINA. *Cyth. testā subtrigono-cordatā, posticē acuminato-productā, crassā, læviusculā, nilente, concentricē rugosā, cinereo-albā et aurantio-carneā, violaceo radiatim tinctā, præsertim ad latus posticum.*

THE MORPHINE CYTHEREA. Shell somewhat triangularly heart-shaped, posteriorly acuminate produced, thick, nearly smooth, shining, concentrically rugose, ash-white and orange-flesh colour, radiately tinged with violet, especially on the posterior side.

LAMARCK, Anim. sans vert. vol. vi. p. 300.

Meretrix morphina, Deshayes.

Hab. China.

A solid delicately-coloured shell, of almost porcellaneous substance.

Species 13. (Mus. Cuming.)

CYTHEREA LYRATA. *Cyth. testā subtrigono-rotundatā vel ovatā, ventricosā, solidā, sordidē lacteā, epidermide tenui pellucido-corneā indutā, ad aream ligamenti livido-nigricante, transversim concentricē corrugato-liratā, liris latis, obtusis, irregularibus, interdum confluentibus.*

THE HARP-STRINGED CYTHEREA. Shell somewhat triangularly rounded or ovate, ventricose, solid, dull cream-colour, covered by a thin transparent horny epidermis, livid-black at the ligamentary area, transversely concentrically wrinkle-ridged, ridges broad, obtuse, irregular, sometimes flowing together.

SOWERBY, Thes. Conch. vol. i. p. 621. pl. 129. f. 61.

Meretrix lyrata, Deshayes.

Hab. Philippine Islands; Cuming.

A very striking species, sculptured throughout with irregularly confluent, obtuse, concentric ridges.

Species 14. (Mus. Cuming.) *et petechialis.*

CYTHEREA FORMOSA. *Cyth. testā oblongo-ovatā, posticē subobliquē productā, lacteā, pallidē violaceo concentricē fasciatā, castaneo ab umbonibus remotē biradiatā.*

THE BEAUTIFUL CYTHEREA. Shell oblong-ovate, posteriorly rather obliquely produced, cream-colour, concentrically banded with faint-violet, distantly two-rayed from the umboes with chestnut.

SOWERBY, Thes. Conch. vol. i. p. 620. pl. 129. f. 47.

Hab. — ? *CHINA + Japan, naïf*

As in many other species of this genus, differing little from each other in form, the colouring is very characteristic.



15.



16 a.



16 b.



17.



18 a.



18 b.



18 c.

CYTHEREA.

PLATE V.

Species 15. (Mus. Cuming.)

CYTHEREA LÆVIGATA. *Cyth. testâ ovato-trigonâ, subæquilaterali, tenuiculâ, lutescente-albâ, violaceo tinctâ et concentricè fasciatâ, umbonibus violaceis, lævigatâ, nittente.*

THE SMOOTH CYTHEREA. Shell ovately triangular, nearly equilateral, rather thin, yellowish-white, tinged and concentrically banded with violet, umboes violet, smooth, shining.

Trigona lævigata, Gray, Cat. Cyth. Anal. vol. viii. p. 304.

Hab. — ?

A delicate species, of nearly equilateral triangular form.

Species 16. (Fig. a, b, Mus. Cuming.)

CYTHEREA TRIPLA. *Cyth. testâ trigono-cuneiformi, medio gibbosâ, utrinque peculiariter latè compressâ, sordidè flavescence-albâ, nunc aurantio tinctâ, interdum cinereo-griseo radiatâ, solidâ, lævigatâ, vel densè concentricè striatâ, areis lateralibus latè excavatis.*

THE TRIPLE CYTHEREA. Shell triangularly wedge-shaped, gibbous in the middle, peculiarly broadly compressed on each side, dull yellowish-white, sometimes tinged with orange, sometimes rayed with ash-grey, solid, smooth or densely concentrically striated, lateral areas broadly excavated.

Venus tripla, Linnæus, Mant. p. 545.

Cytherea tripla, Lamarck.

Trigona tripla, Gray.

Hab. Senegal.

A solid triangular shell, extremely varied in colour, having the lunule and ligament areas pinched, as it were, into broad excavations.

Species 17. (Mus. Cuming.)

CYTHEREA VENTRICOSA. *Cyth. testâ cordato-trigonâ, gib-*

bosissimâ, griseo-albâ, epidermide corneâ fulvâ partim indutâ, latere antico immerso, latere postico arcuato, latè abruptè truncato, areâ ligamenti peramplâ, excavatâ.

THE VENTRICOSE CYTHEREA. Shell cordately triangular, very gibbous, greyish-white, partially covered with a fulvous horny epidermis, anterior side immersed, posterior side arched, broadly abruptly truncated, ligamentary area very large, excavated.

Trigona ventricosa, Gray, Cat. Cyth. Anal. vol. viii. p. 304.

Cytherea ventricosa, Sowerby.

Hab. China.

This fine species is the most gibbous and abruptly truncated of the genus, and none of similar type approaches it in size.

Species 18. (Fig. a, b, c, Mus. Cuming.)

CYTHEREA MACTROIDES. *Cyth. testâ trigonâ, ventricosâ, subæquilaterali, utrinque subcompressâ, albidâ, rufescente-castaneo plus minus tinctâ et radiatâ, epidermide corneâ fulvâ interdum partim indutâ, lævigatâ.*

THE MACTRA-LIKE CYTHEREA. Shell triangular, ventricose, nearly equilateral, rather compressed on each side, whitish, more or less rayed and stained with reddish-chestnut, sometimes partially covered with a fulvous horny epidermis, smooth.

Venus Mactroides, Born, Test. Mus. Vind.

Venus corbicula, Gmelin.

Cytherea corbicula, Lamarck.

Trigona corbicula, Gray.

Trigona Mactroides, Deshayes.

Hab. West Indies.

The colouring is mostly reddish-chestnut, though extremely variable in design. The lateral areas are rather broader than in *C. radiata* and other allied species.



19.a.



19.b.



19.c.



20.



21.



22.



23

CYTHEREA.

PLATE VI.

Species 19. (Fig. a, b, c, Mus. Cuming.)

CYTHEREA OVUM. *Cyth. testá ovatá, solidissimá, gibbá, anticè cordatá, posticè subproductá, albidá, epidermide griseá vel rufescente-aurantiá indutá, latere postico intus extusque violaceo-tincto.*

THE EGG CYTHEREA. Shell ovate, very solid, gibbous, anteriorly heart-shaped, posteriorly a little produced, whitish, covered with a grey or reddish-orange epidermis, posterior side stained within and without with violet.

HANLEY, Pro. Zool. Soc. 1845, p. 21.

Meretrix ovum, Deshayes.

Hab. Madras.

A solid, gibbous shell, varying in form, as in the specimens figured, from subglobose to oval, of a grey or reddish-orange colour, deeply stained with violet, chiefly in the interior, at the posterior extremity.

Species 20. (Mus. Cuming.)

CYTHEREA LUSORIA. *Cyth. testá subtrigono-ovatá, solidá, subæquilaterali, albá, spadiceo-rufo nebulatá et fasciatá, infra epidermide pallidè fulvâ, lævigatá, nitente, areâ ligamenti lividâ.*

THE SPORTIVE CYTHEREA. Shell somewhat triangularly ovate, solid, nearly equilateral, white, clouded and banded with fawn-red, beneath a pale fulvous epidermis, smooth, shining, ligamentary area livid.

Meretrix lusoria, Rumphius, Amb. pl. 42. f. G.

Venus lusoria, Chemnitz.

Cytherea lusoria, Lamarck.

Hab. China Sea.

The fawn-red, or iron-mould colouring of this species, is mostly constant.

Species 21. (Mus. Cuming.)

CYTHEREA VESTITA. *Cyth. testá ovatá, subtrigoná, modicè depressá, solidiusculá, fulvescente-lacteá, violaceo pallidè multiradiatá, epidermide intensè olivaceo-fuscá indutá, concentricè rudè striatá, areâ ligamenti lividâ.*

THE CLOTHED CYTHEREA. Shell ovate, slightly trian-

gular, moderately depressed, rather solid, fulvous cream-colour, faintly many-rayed with violet, covered with a dark olive-brown epidermis, concentrically rudely striated, ligamentary area livid.

Hab. — ?

I cannot refer this to any described species. Its colouring and epidermis are quite peculiar.

Species 22. (Mus. Cuming.)

CYTHEREA STULTORUM. *Cyth. testá oblongo-ovatá, sub-Donaciformi, modicè depressá, albido-griseá, flavescente-roseo pallidè fasciatá, lævigatá, nitente, latere antico compressè rotundato, postico exilissimè flexuoso-angulato.*

THE FOOLS' CYTHEREA. Shell oblong-ovate, somewhat Donax-shaped, moderately depressed, whitish-grey, faintly rayed with yellowish-rose, smooth, shining, anterior side compressly rounded, posterior very faintly flexuously angled.

Donax stultorum, Gray, Wood, Ind. Test. Supp. pl. 2. f. 2.

Trigona stultorum, Gray.

Hab. Indian Ocean.

A very delicately tinged, shining shell, of rather compressed growth.

Species 23. (Mus. Cuming.)

CYTHEREA BICOLOR. *Cyth. testá acutè trigoná, depressè cuneiformi, albá, epidermide pallidè fulvâ indutá, lævigatá, lunulá et areâ ligamenti peramplis, planis, areâ violaceo-castaneá.*

THE TWO-COLOURED CYTHEREA. Shell sharply triangular, depressly wedge-shaped, white, covered with a pale fulvous epidermis, smooth, lunule and ligamentary area very large, flat, area violet-chestnut.

Trigona bicolor, Gray, Anal. 1838, vol. viii. p. 304.

Cytherea bicolor, Hanley.

Hab. Senegal.

A sharply-angled shell, of a violet-chestnut colour on the largely-expanded ligamentary area, while all the rest of the shell is white.



24.



26.a.



25.



26.b.



27.



28.



29.

CYTHERA.

PLATE VII.

Species 24. (Mus. Cuming.)

CYTHERA DILLWYNI. *Cyth. testâ trigono-cuneiformi, compressiusculâ, subæquilaterali, spadiceo-fuscâ, violaceo-fusco pallidè radiatâ et concentricè fasciatâ, lunulâ subamplâ, oblongo-ovali.*

DILLWYN'S CYTHERA. Shell triangularly wedge-shaped, rather compressed, nearly equilateral, fawn-brown, faintly rayed and concentrically banded with violet-brown, lunule rather large, oblong-oval.

Cytherea mactroides, Sowerby (not of Lamarck), Thes. vol. i. p. 615. pl. 128. f. 36.

Trigona Dillwyni, Deshayes.

Hab. Indian Ocean.

A solid, Donax-shaped shell, neatly cross-banded and rayed with violet-brown.

Species 25. (Mus. Cuming.)

CYTHERA CASTA. *Cyth. testâ ovatâ, vix cordatâ, subdepressâ, solidiusculâ, glaucescente-griseâ, pallidissimè radiatâ, lævigatâ, nitente.*

THE CHASTE CYTHERA. Shell ovate, scarcely heart-shaped, somewhat depressed, rather solid, glaucous-grey, very faintly rayed, smooth, shining.

Venus casta, Chemnitz, Conch. Cab. vol. vi. p. 349. pl. 33. f. 346.

Cytherea casta, Lamarck.

Meretrix casta, Deshayes.

Hab. Ceylon.

The shining glaucous-grey colour, indistinctly rayed, is a characteristic feature of this species.

Species 26. (Fig. a, b, Mus. Cuming.)

CYTHERA ASTRICTA. *Cyth. testâ subtrigono-cordatâ, gibbâ, solidâ, posticè subproductâ, olivaceo-spadiceâ, rufo tinctâ, radiis duobus subdistantibus nigris aut fuscis notatâ, lævigatâ, nitente, lunulâ indistinctâ.*

THE TIED CYTHERA. Shell somewhat triangularly heart-shaped, gibbous, solid, slightly produced posteriorly, olive-fawn colour, tinged with red, marked

with two rather distant black or brown rays, smooth, shining, lunule indistinct.

Hab. — ?

Allied to *C. casta*, but of a more gibbous, heart-shaped form, distinctly produced at the posterior side. The two distant rays of black or brown are striking, but they may not be permanent.

Species 27. (Mus. Cuming.)

CYTHERA RADIATA. *Cyth. testâ trigono-ovatâ, posticè subproductâ, solidâ, gibbosâ, fulvescente, rufescente-brunneo profusè radiatâ et concentricè fasciatâ, lævigatâ, haud nitente, anticè subplicato-corrugatâ, epidermide corneâ partim indutâ, lunulâ amplâ.*

THE RAYED CYTHERA. Shell triangularly ovate, rather produced posteriorly, solid, gibbous, fulvous, profusely rayed and concentrically banded with reddish-brown, smooth, not shining, obscurely plicately wrinkled on the anterior side, partially covered with a horny epidermis, lunule large.

SOWERBY, Pro. Zool. Soc. 1835, p. 23.

Venus Salangensis, D'Orbigny.

Cytherea gracilior, Sowerby.

Trigona Byronensis, Gray.

Trigona radiata, Deshayes.

Hab. Salango and Xipixapi, West Columbia (in sandy mud, at the depth of nine fathoms); Cuming.

Of a solid, triangular form, obscurely plicately wrinkled on the anterior side, profusely rayed with light red-brown, not shining, but partially covered with a horny epidermis.

Species 28. (Mus. Cuming.)

CYTHERA NUBILA. *Cyth. testâ trigono-cordatâ, gibbâ, præsertim ad latus posticum, fulvâ, pallidè fusco profusè undatâ et fasciatâ, lævigatâ, nitente, areâ posticâ peramplâ, latâ, planâ.*

THE CLOUDY CYTHERA. Shell triangularly heart-shaped, gibbous, especially on the posterior side, fulvous, profusely waved and banded with light

CYTHEREA.—PLATE VII.

brown, smooth, shining, posterior area very large, broad, flat.

Hab. — ?

Of a much more gibbous triangular form than *C. radiata*, the posterior area being peculiarly large, broad, and flat. The surface is moreover smooth and glossy.

Species 29. (Mus. Cuming.)

CYTHEREA TRIGONĀ. *Cyth. testā abbreviato-trigonā, ad umboes acuminatā, solidā, compressā, fulvā, rufo-*

fusco concentricè undulatā, latere postico subangulato, lunulā oblongā, indistinctā.

THE TRIANGULAR CYTHEREA. Shell shortly triangular, acuminate at the umboes, solid, compressed, fulvous, concentrically waved with red-brown, posterior side rather angled, lunule oblong, indistinct.

DUNKER, MS. in Mus. Cuming.

Hab. — ?

This appears to be a very distinct species, of solid, acuminate triangular growth. It is finely waved throughout with faint red lines.



30.



31.



32.



33a



34a



34b



33b

CYTHEREA.

PLATE VIII.

Species 30. (Mus. Cuming.)

CYTHEREA VIRGINEA. *Cyth. testā oblongo-ovatā, latè trigonā, subæquilateralī, crassiusculā, cinerascēte-albā, obscurè radiatā, lævigatā vel concentricè rugosā, latere postico subquadratum flexuoso-rostrato.*

THE VIRGIN CYTHEREA. Shell oblong-ovate, widely triangular, nearly equilateral, rather thick, ash-white, obscurely rayed, smooth, or concentrically rugose, posterior side somewhat squarely flexuously beaked.

ADAMS and REEVE, Moll. Voy. Samarang, p. 78. pl. 24. f. 10.

Hab. Moluccas.

A very characteristic species, in which the posterior side is flexuously beaked.

Species 31. (Mus. Cuming.)

CYTHEREA INTERMEDIA. *Cyth. testā latè ovatā, versus umbones trigonā, albidā, violaceo interdum pallidè radiatā, epidermide fulvā partim indutā, solidā, lævigatā, concentricè rugosā, latere postico subtruncato.*

THE INTERMEDIATE CYTHEREA. Shell broadly ovate, triangular towards the umboes, whitish, sometimes faintly rayed with violet, partially covered with a fulvous epidermis, solid, smooth, concentrically rugose, posterior side sometimes truncated.

SOWERBY, Thes. Conch. vol. i. p. 612. pl. 128. f. 39.

Trigona intermedia, Deshayes.

Hab. California.

Of a somewhat truncately wedge-shaped form, faintly rayed with violet upon a dull cream-coloured ground.

Species 32. (Mus. Cuming.)

CYTHEREA COMPRESSA. *Cyth. testā latè ovatā, trigonā, subcompressā, fulvescente-lacteā, fasciis rubescentibus plus minus profusè radiatā, concentricè densè striatā, subsericeā, latere postico subtruncato.*

THE COMPRESSED CYTHEREA. Shell broadly ovate, triangular, rather compressed, fulvous cream-colour, more or less profusely rayed with reddish bands, concentrically closely striated, rather silky, posterior side slightly truncated.

SOWERBY, Thes. Conch. vol. i. p. 616. pl. 128. f. 33, 34.

Trigona compressa, Deshayes.

Hab. Cape of Good Hope.

This and the remaining species of the plate are charac-

terized by an unusually broadly ovate-triangular form, all more or less compressed in growth.

Species 33. (Fig. a, b, Mus. Cuming.)

CYTHEREA UNDULATA. *Cyth. testā latè ovatā, subæquilateralī, versus umbones acutè trigonā, plano-compressā, fulvescente-lacteā, violaceo-rubente plus minus radiatā, radiis interdum interruptè undulatis, lævigatā, concentricè densè striatā, ad latus anticum plicato-corrugatā, latere postico subabruptè abbreviato.*

THE WAVED CYTHEREA. Shell broadly ovate, nearly equilateral, sharply triangular towards the umboes, flatly compressed, fulvous cream-colour, more or less rayed with violet-red, rays sometimes interruptedly waved, smooth, concentrically closely striated, plicately wrinkled on the anterior side, posterior side rather abruptly shortened.

SOWERBY, Thes. Conch. vol. i. p. 618. pl. 27. f. 12.

Trigona undulata, Deshayes.

Hab. Columbia.

It will be seen by the variety given at Fig. 33 b that the interruptedly waved rays after which the *C. undulata* is named, is by no means a constant character of the species.

Species 34. (Fig. a, b, Mus. Cuming.)

CYTHEREA PLANULATA. *Cyth. testā latè ovatā, trigonocuneiformi, subæquilateralī, plano-compressā, fulvescente lacteā, violaceo-rubente variè radiatā, epidermide corneā olivaceā interdum indutā, concentricè densè striatā, ad latus anticum sæpe plicato-corrugatā, latere postico subabruptè abbreviato.*

THE FLAT CYTHEREA. Shell broadly ovate, triangularly wedge-shaped, nearly equilateral, flatly compressed, fulvous cream-colour, variously rayed with violet-red, sometimes covered with an olive horny epidermis, concentrically closely striated, often plicately wrinkled on the anterior side, posterior side rather abruptly shortened.

BRODERIP and SOWERBY, Zool. Journ. vol. 5. p. 48.

Donax Lessoni, Deshayes.

Trigona planulata, Gray.

Venus planulata, D'Orbigny.

Hab. Central America.

This and the preceding species run so closely into each other that with a variety of specimens it is scarcely possible to define them.

CYTHERA

Plate 11

Fig. 1. Cythera (Cythera) ...

Fig. 2. Cythera (Cythera) ...

Fig. 3. Cythera (Cythera) ...

Fig. 4. Cythera (Cythera) ...

Fig. 5. Cythera (Cythera) ...

Fig. 6. Cythera (Cythera) ...

Fig. 7. Cythera (Cythera) ...

Fig. 8. Cythera (Cythera) ...

Fig. 9. Cythera (Cythera) ...

Fig. 10. Cythera (Cythera) ...

Fig. 11. Cythera (Cythera) ...



35.



36.



37.



38.



39^a.



39^b.



40.

CYTHEREA.

PLATE IX.

Species 35. (Mus. Brit.)

CYTHEREA EXILIS. *Cyth. testā trigono-ovatā, compressiusculā, ad umbones acutā, posticè subangulatā, albidā, maculis purpureo-rufis sagittæformibus sparsim notatā, epidermide tenui corneā indutā, lævigatā, ad latus posticum plicato-striatā.*

THE DELICATE CYTHEREA. Shell triangularly ovate, rather compressed, sharp at the umboes, posteriorly slightly angled, whitish, sparingly marked with purple-red arrow-headed spots, covered with a thin, horny epidermis, smooth, plicately striated on the posterior side.

Meretrix exilis, Deshayes, Cat. Conch. Brit. Mus. p. 40.
Hab. — ?

The arrow-headed dashes, with which this species is promiscuously sparingly marked, are quite peculiar.

Species 36. (Mus. Brit.)

CYTHEREA POLITA. *Cyth. testā subtrigono-ovatā, subarcuatā, solidā, lævigatā, candidā, purpureo-carneo radiatā, nitente, latere postico subangulato, curvato.*

THE POLISHED CYTHEREA. Shell somewhat triangularly ovate, slightly curved, solid, smooth, white, rayed with purple flesh-colour, shining, posterior side slightly angled, curved.

SOWERBY, Thes. Conch. vol. i. p. 618. pl. 127. f. 14.
Trigona polita, Deshayes.

Hab. Natal.

A very delicately tinted shell, smooth and shining.

Species 37. (Mus. Brit.)

CYTHEREA AMBIGUA. *Cyth. testā subtrigono-ovatā, solidiusculā, depressā, albidā, purpureo-carneo variè radiatā, lunulā et areā ligamenti aurantio-castaneis, lævigatā, nitente.*

THE DOUBTFUL CYTHEREA. Shell somewhat triangularly ovate, rather solid, depressed, whitish, variously rayed with purple flesh-colour, lunule and ligamentary area orange-chestnut, smooth, shining.

Trigona ambigua, Deshayes, Cat. Conch. Brit. Mus. p. 47.

Hab. — ?

Very like the preceding species, although of a more triangular form. The orange-chestnut colouring of the lunule and ligamentary area is certainly peculiar.

Species 38. (Mus. Brit.)

CYTHEREA CORPULENTA. *Cyth. testā subtrigono-orbiculari, solidā, cordato-tumidā, posticè obtusè angulatā, lævigatā, albā, lineis aurantio-castaneis undatis undique pictā, epidermide tenui corneā indutā, area ligamenti lividā.*

THE STOUT CYTHEREA. Shell somewhat triangularly orbicular, solid, cordately tumid, posteriorly obtusely angled, smooth, white, painted throughout with waved orange-chestnut lines, covered with a thin, horny epidermis, ligamentary area livid.

GRAY, Cat. Cyth. Anal. vol. viii. p. 303.

Meretrix corpulenta, Deshayes.

Hab. — ?

Described from a single specimen in the British Museum, which approximates rather closely to certain varieties of *C. zonaria*.

Species 39. (Fig. a, Mus. Brit. Fig. b, Mus. Cuming.)

CYTHEREA HINDSII. *Cyth. testā trigonā, gibbosissimā, tenuiculā, ad umbones tumidā, utrinque impressā, fulvescente-lacteā, lineis aurantio-brunneis acutè undulatis conspicuè concentricè fasciatā, versus marginem ustulato-brunneo plus minus tinctā, lævigatā.*

HINDS'S CYTHEREA. Shell triangular, very gibbous, rather thin, tumid at the umboes, impressed on either side, fulvous cream-colour, conspicuously concentrically banded with sharply waved orange-brown lines, more or less stained with burnt-brown towards the margin, smooth.

HANLEY, Pro. Zool. Soc. 1844, p. 110.

Trigona Hindsii, Hanley.

Hab. Bay of Guayaquil; Hinds.

An excellent species, collected in the above-named locality by the assiduous conchologist after whom it is named.

CYTHEREA.—PLATE IX.

Species 40. (Mus. Brit.)

CYTHEREA FULMINATA. *Cyth. testâ subrhombicâ, æquilaterali, albâ, lineis rufo-castaneis copiosè undato-fasciatâ, areâ ligamenti castaneo tinctâ, lævigatâ vel rugoso-striatâ.*

THE LIGHTNING-MARKED CYTHEREA. Shell somewhat rhomboid, equilateral, white, copiously wave-

banded with reddish-chestnut lines, ligamentary area stained with chestnut, smooth, or rugosely striated.

PHILIPPI, Abbild. und Besch. Conch. p. 198. pl. 3. f. 4. *Trigona fulminata*, Deshayes.

Hab. — ?

Of a peculiar rhomboidal form.



42.



44.



43



44



45.



46.



47^a



47.b.



48.



49.

CYTHAREA.

PLATE X.

Species 41. (Mus. Cuming.)

CYTHAREA TRIGONELLA. *Cyth. testā trigono-ovatā, compressiusculā, fulvā, livido-purpureo variè tinctā, lævigatā, latere postico flexuosè truncato.*

THE TRIANGULAR CYTHAREA. Shell triangularly ovate, rather compressed, fulvous, variously stained with livid-purple, smooth, posterior side flexuously truncated.

LAMARCK, Anim. sans vert. vol. vi. p. 307.

Trigona angulifera, Gray.

Hab. West Indies.

The livid-purple colouring of this little species is generally conspicuous on the umboes.

Species 42. (Mus. Cuming.)

CYTHAREA INCERTA. *Cyth. testā trigono-ovatā, gibbosā, utrinque umbones subexcavatā, albā, lævigatā, nitente, rufescente-fusco obscurissimè maculatā.*

THE UNCERTAIN CYTHAREA. Shell triangularly ovate, gibbous, slightly excavated on each side of the umboes, white, smooth, shining, very obscurely spotted with red-brown.

SOWERBY, Thes. Conch. vol. i. p. 617. pl. 128. f. 17.

Trigona incerta, Deshayes.

Hab. San Juan.

A small species of the gibbous form of the genus, with the lunule and ligament areas a little excavated.

Species 43. (Mus. Cuming.)

CYTHAREA GOULDII. *Cyth. testā obliquè trigonā, posticè subacuminatā, gibbosā, solidā, albā, concentricè undique densè filoso-liratā.*

GOULD'S CYTHAREA. Shell obliquely triangular, posteriorly rather acuminate, gibbous, solid, white, concentrically densely thread-ridged throughout.

Hab. Malacca.

A very distinct, conspicuously-sculptured shell, in Mr. Cuming's collection, with the above name appended to it in manuscript.

Species 44. (Mus. Cuming.)

CYTHAREA NITIDULA. *Cyth. testā suboblongo-ovatā, obtusè trigonā, albidā, fulvo-rubente undique undato-marmoratā et strigatā, lævigatā, nitente.*

THE SHINING CYTHAREA. Shell rather oblong-ovate, obtusely triangular, whitish, streaked and wave-mottled throughout with fulvous-red, smooth, shining.

LAMARCK, Anim. sans vert. vol. vi. p. 305.

Trigona nitidula, Deshayes.

Hab. Mediterranean.

A prettily-painted species, nearly equilateral, smooth and shining.

Species 45. (Mus. Hanley.)

CYTHAREA HANLEYANA. *Cyth. testā trigono-ovatā, gibbosā, posticè subobliquè productā, albidā, versus umbones livido-cærulescente tinctā, rufescente-fusco versus marginem interruptè radiatā.*

HANLEY'S CYTHAREA. Shell triangularly ovate, gibbous, posteriorly rather obliquely produced, whitish, tinged towards the umboes with livid-blue, interruptedly rayed towards the margin with red-brown.

SOWERBY, Thes. Conch. vol. i. p. 616. pl. 128. f. 23, 24.

Trigona Hanleyana, Deshayes.

Hab. —?

Distinguished by a characteristic, interruptedly rayed painting of red-brown on a blue-white ground, passing into a deep livid colour at the umboes.

Species 46. (Mus. Cuming.)

This proves to be a larger specimen of *C. Gouldii*, described at Species 43, and figured above it in the Plate.

Species 47. (Fig. a, b, Mus. Cuming.)

CYTHAREA PHILIPPINARUM. *Cyth. testā cordato-ovatā, inæquilaterali, subventricosā, crassā, albidā, violaceo-purpureo plus minus profusè lineari-undulatā, radiatā et tinctā, concentricè undique densè plicato-costatā, lunulā intensè purpureo-roseā.*

THE PHILIPPINE CYTHAREA. Shell cordately ovate, inequilateral, slightly ventricose, thick, whitish, more

CYTHEREA.—PLATE X.

or less profusely linearly waved, rayed and stained with violet-purple, concentrically plicately densely ribbed throughout, lunule deep purple-rose.

HANLEY, Pro. Zool. Soc. 1844, p. 110.

Meretrix Philippinarum, Deshayes.

Hab. Philippine Islands, Cuming.

A closely ribbed species, elaborately painted with fine zigzag linear waves of violet-purple, and sometimes stained throughout with that colour.

Species 48. (Mus. Cuming.)

CYTHEREA FUMEA. *Cyth. testā subtrigono-ovatā, compressā, fumeo-spadiceā, ad umbones lividā, deinde rufofusco acutè concentricè undulatā, lævigatā, nitente.*

THE SMOKY CYTHEREA. Shell somewhat triangularly-ovate, compressed, smoky fawn-colour, livid at the umboes, then sharply concentrically waved with red-brown, smooth, shining.

Hab. — ?

This little shell appears to differ in form from any other species, while it is characterized by a distinct style of painting.

Species 49. (Mus. Cuming.)

CYTHEREA GRATA. *Cyth. testā cordato-ovatā, ad umbones subacuminatā, posticè obliquè productā, fulvescentespadiceā, concentricè perconspicuè plicato-costatā, costis subdistantibus, interstitiis excavatis.*

THE PLEASING CYTHEREA. Shell cordately ovate, rather acuminate at the umboes, obliquely produced posteriorly, fulvous fawn-colour, concentrically very conspicuously plicately ribbed, ribs rather distant, with the interstices excavated,

Meretrix grata, Deshayes, Pro. Zool. Soc. 1853.

Hab. China Sea.

Remarkable on account of its general external resemblance to an *Astarte*.

TAPES.

MONOGRAPH

OF THE GENUS

TAPES.

“He who casts himself
On Nature’s fair full bosom, and draws food,
Drinks from a fountain that is never dry.”—*Longfellow.*

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TAPES.

	Plate.	Species.		Plate.	Species.
<i>ænea</i> (Venus), Turton	VIII.	37	<i>læta</i> (Venus), Poli	XIII.	74
<i>ala-papilionis</i> (Venus), Chemnitz ..	II.	7	<i>laterisulca</i> (Tapes), Sowerby	VI.	26
<i>alba</i> , <i>Deshayes</i>	IV.	14	<i>Largillierti</i> (Venus), Philippi	XI.	59
<i>amabilis</i> (Venus), Philippi	V.	21	<i>lentiginosa</i> , <i>Reeve</i>	VI.	25
<i>Amphidesmoides</i> , <i>Reeve</i>	X.	50	<i>lirata</i> (Venus), Philippi	V.	20
<i>Arctica</i> , <i>Reeve</i>	X.	52	<i>literata</i> (Venus), Linnæus	I.	2
<i>aspersa</i> (Venus), Chemnitz	II.	5	<i>literata</i> (Venus), Pennant	XI.	57
<i>aurea</i> (Venus), Gmelin	VIII.	37	<i>literata</i> (Venus), Poli	XIII.	71
<i>Beudanti</i> (Venus), Payraudeau	X.	54	<i>livida</i> , <i>Reeve</i>	X.	47
<i>bicolorata</i> , <i>Reeve</i>	IX.	42	<i>Luzonica</i> , <i>Sowerby</i>	IX.	40
<i>biradiata</i> , <i>Deshayes</i>	IX.	46	<i>Malabarica</i> (Venus), Chemnitz	VI.	27
<i>Bruguieri</i> (Venus), Hanley	XIII.	73	<i>marimorata</i> (Cytherea), Lamarck ...	VI.	26
<i>Ceylonensis</i> , <i>Sowerby</i>	VII.	30	<i>Meroëformis</i> , <i>Sowerby</i>	V.	19
<i>cinerea</i> , <i>Deshayes</i>	XII.	62	<i>nebulosa</i> (Venus), Chemnitz	VII.	33
<i>corrugata</i> , <i>Deshayes</i>	XIII.	72	<i>nitens</i> (Venus), Turton	VIII.	37
<i>Cumingii</i> , <i>Sowerby</i>	XIII.	75	<i>nucleus</i> (Venerupis), Lamarck	XI.	58
<i>dactyloides</i> , <i>Sowerby</i>	XIII.	69	<i>obscura</i> (Venus), Gmelin	XI.	57
<i>declivis</i> , <i>Sowerby</i>	V.	23	<i>obscurata</i> , <i>Deshayes</i>	III.	12
<i>decussata</i> (Venus), Linnæus	XI.	57	<i>occidentalis</i> , <i>Reeve</i>	VIII.	35
<i>deflorata</i> (Venus), Born	XI.	57	<i>opina</i> (Venus), Gmelin	VII.	33
<i>Deshayesii</i> (Venus), Hanley	II.	4	<i>orientalis</i> , <i>Reeve</i>	VIII.	34
<i>denticulata</i> , <i>Sowerby</i>	XII.	63	<i>ovulæa</i> (Venus), Lamarck	III.	11
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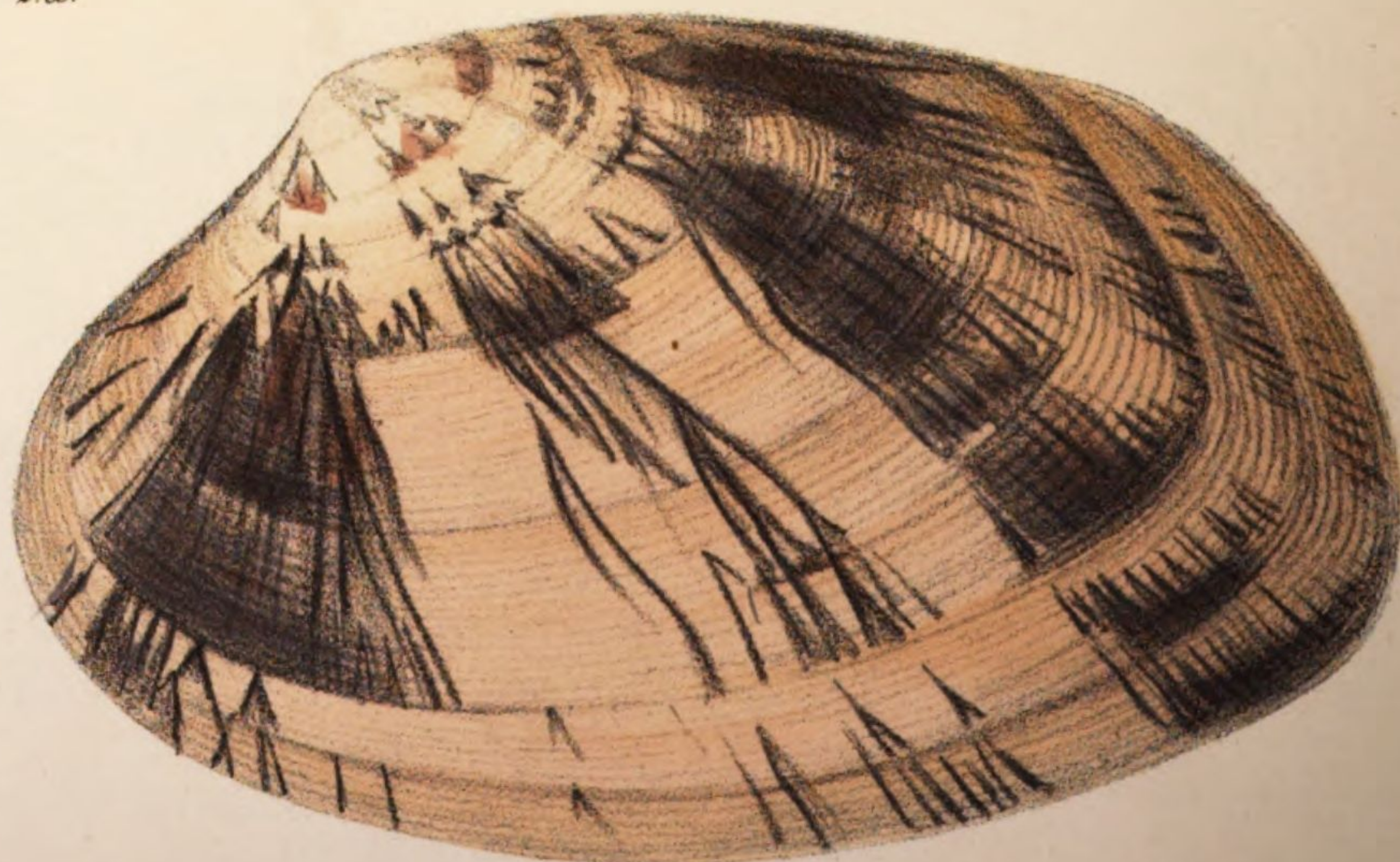
1.



2.a.



2.b.



2.c.

TAPES.

PLATE I.

Genus TAPES, Megerle.

Testa ovata vel subquadrato-oblonga, sæpissimè valde inæquilateralis, concentricè sulcata vel striata, interdum decussata vel corrugata, marginibus integris. Cardo tridentatus, dentibus nunc divergentibus, nunc approximatis. Impressio pallii posticè subampliter sinuata.

Shell ovate or somewhat squarely oblong, mostly very inequilateral, concentrically grooved or striated, sometimes decussated or wrinkled, margins entire. Hinge three-toothed, teeth sometimes diverging, sometimes approximating. Impression of the mantle rather largely sinuated on the posterior side.

Tapes is one of the most characteristic genera of the *Veneridæ*. Not only is the animal distinguished, in its typical state, by the presence of a byssal groove in the foot, from which a byssus is often spun for its attachment, but the shells are marked by considerable uniformity of sculpture and colour. Four-fifths of the species are concentrically grooved and striated, and of a peculiar fulvous-drab, painted with a fine textile or with sharply angled blotches of olive-brown or black. The remaining fifth constitute a very distinct section, in which the colouring is of a duller rust-colour, and the sculpture closely decussated or wrinkled.

Tapes is essentially an Eastern genus. With the exception of eight species inhabiting the Mediterranean, of which four are moderately abundant on our own shores, and four from Senegal, the Red Sea, Natal, and Senegambia, they are all natives of the Islands of the Indian Archipelago, reaching northward to Japan and southwards to Australia and New Zealand. They are most abundant at the Philippines, and several of the species inhabit the Philippine Islands and Australia in common. A further exception arises from a species believed to be from Guadeloupe, which is now added to the genus.

Species 1. (Mus. Cuming.)

TAPES SULCARIA. *Tap. testâ subquadrato-oblongâ, sub-*

angustâ, valde inæquilaterali, aurantio-spadiceâ, castaneo lineari-reticulatâ et radiatim maculatâ, maculis violaceo-cinereo umbratis, concentricè validè sulcatâ et latiliratâ.

THE GROOVED TAPES. Shell somewhat squarely oblong, rather narrow, very inequilateral, orange-fawn, linearly reticulated and radiately blotched with chestnut, blotches shaded with violet-ash, concentrically strongly grooved and broadly ridged.

Venus sulcaria, Lamarck, Anim. sans vert. vol. vi. p. 254.

Venus retifera, Hanley.

Tapes sulcaria, Sowerby.

Tapes sulcaria and *retifera*, Deshayes.

Hab. Indian Ocean.

This species is characterized not only by its strong concentric groove, but by a peculiar violet-ash clouding of the rays.

Species (Fig. 2, *a, b, c*, Mus. Cuming.)

TAPES LITERATA. *Tap. testâ subquadrato-oblongâ, posticè declivi-truncatâ, spadiceo-albâ, fusco-nigricante acutè lineari-reticulatâ, interdum tantum punctatâ, interdum inquinato-nebulatâ, concentricè tenuiliratâ.*

THE LETTERED TAPES. Shell somewhat squarely oblong, posteriorly slopingly truncated, fawn-white, sharply linearly reticulated with fuscous-black, sometimes only dotted, sometimes smearingly clouded, concentrically finely ridged.

Venus literata, Linnæus, Syst. Nat. p. 1135.

Pullastra literata, Sowerby.

Tapes literata, Sowerby.

Hab. Indian Ocean; Australia.

Of this fine species the sculpture is comparatively delicate. In form its chief distinguishing feature is the arched truncated slope of the posterior side.

March, 1864.



3.



4a.



4b.



5a.



5b.



6.



7.

TAPES.

PLATE II.

Species 3. (Mus. Cuming.)

TAPES TEXTRIX. *Tap. testá oblongo-ovatá, posticè subatenuatá, pallidè fulvâ, lineis undatis violaceo-griseis undique reticulatâ, glaberrimâ.*

THE WEAVER TAPES. Shell oblong-ovate, posteriorly somewhat attenuated, pale fulvous, everywhere reticulated with waved violet-grey lines, very smooth.

Venus textrix, Chemnitz, Conch. Cab. vol. vii. p. 48. pl. 42. f. 442.

Venus textile, Gmelin.

Venus undulata, Dillwyn.

Pullastra vulgaris, Sowerby.

Tapes textile, Sowerby.

Tapes textrix, Deshayes.

Hab. Indian Ocean; New Holland.

This well-known species may always be recognized by its posteriorly-attenuated oblong form, and textile painting.

Species 4. (Fig. a, b, Mus. Cuming.)

TAPES DESHAYESII. *Tap. testá subquadrato-oblongâ, modicè convexâ, valde inæquilaterali, fulvescente-lacteâ, castaneo-brunneo vel griseo variè obliquè reticulatâ, concentricè obtusè liratâ, liris ad latus posticum plicatis.*

DESHAYES' TAPES. Shell somewhat squarely oblong, moderately convex, very inequilateral, fulvous cream-colour, variously obliquely reticulated with chestnut-brown or grey, concentrically obtusely ridged, ridges plicated on the posterior side.

Venus Deshayesii, Hanley, Wood, Ind. Test. App. pl. 16. f. 35.

Venus radiata, Anton (not of Chemnitz or Brocchi).

Tapes Deshayesii, Sowerby.

Hab. Philippine Islands; Cuming.

Of a peculiar oblong-square form, strongly plicately ridged on the posterior angle.

Species 5. (Fig. a, b, Mus. Cuming.)

TAPES ASPERSA. *Tap. testá oblongo-ovatâ, valde inæquilaterali, subdepressè convexâ, latere postico obliquè*

rhomboideo, rufescente-lacteâ, maculis castaneis interruptè triradiatâ, deinde punctis castaneis aspersâ, interdum lineis violaceo-griseis obscurè reticulatâ, concentricè obtusè liratâ, liris sæpe confluentibus.

THE SPRINKLED TAPES. Shell oblong-ovate, very inequilateral, rather depressly convex, posterior side obliquely rhomboid, reddish cream-colour, interruptedly three-rayed with chestnut spots, then sprinkled with chestnut dots, sometimes obscurely reticulated with violet-grey lines, concentrically obtusely ridged, ridges often flowing together.

Venus aspersa, Chemnitz, Conch. Cab. vol. vii. p. 44. pl. 42. f. 438.

Venus literata, var., Gmelin.

Tapes aspersa, Sowerby.

Hab. Australia and Philippine Islands.

The rays of chestnut blotches are generally very irregular in this species, whilst the sprinkling of dots is rather conspicuous. In most specimens there are traces of a textile pattern of violet-grey.

Species 6. (Mus. Cuming.)

TAPES QUADRIRADIATA. *Tap. testá suboblongo-ovatâ, subventricosâ, fulvescente-lacteâ, maculis nigricantibus quadriradiatâ, lineis griseis undique reticulatâ, concentricè densè obtusè liratâ, margine ventrali tumidiusculo.*

THE FOUR-RAYED TAPES. Shell rather oblong-ovate, slightly ventricose, fulvous cream-colour, four-rayed with blackish spots, everywhere reticulated with grey lines, concentrically densely obtusely ridged, ventral margin rather tumid.

DESHAYES, Pro. Zool. Soc. 1853. p. 9. pl. 19. f. 6.

Hab. Philippine Islands; Cuming.

Of a distinct, subventricose form, rather tumidly arched at the ventral margin.

Species 7. (Mus. Cuming.)

TAPES ROTUNDATA. *Tap. testâ subgracili-ovatâ, utrinque rotundatâ, rufescente-spadiceâ, maculis castaneis qua-*

driradiatá, lineis griseis undique pallidissimè reticulatá, concentricè obtusè liratá, liris planis.

THE ROUNDED TAPES. Shell rather slenderly ovate, rounded on each side, reddish fawn-colour, four-rayed with chestnut blotches, very faintly reticulated throughout with grey lines, concentrically obtusely ridged, ridges flat.

Venus rotundata, Linnæus, Syst. Nat. p. 1135.

Venus ala-papilionis, Chemnitz.

Venus papilionacea, Lamarek.

Pullastra papilionacea, Sowerby.

Tapes papilionacea, Sowerby.

Hab. Indian Ocean; New Holland.

We are indebted to M. Deshayes for having identified this species, so well known to conchologists by the characteristic name of *papilionacea*, with Linnæus' *Venus rotundata*.



8.



9.



10.



11.



13.a.



12.



13.b.

TAPES.

PLATE III.

Species 8. (Mus. Cuming.)

TAPES UNDULATA. *Tap. testā oblongo-ovatā, subangustā, fulvā, purpureo-violaceo reticulato-undatā, præsertim ad marginem ventralem et ad lunulam areamque ligamenti, latere postico concentricè rugoso, antico diagonaliter obtusè corrugato.*

THE WAVED TAPES. Shell oblong-ovate, rather narrow, fulvous, reticulately waved with purple-violet, especially at the ventral margin and at the lunule and ligamentary area, posterior side concentrically rugose, anterior diagonally obtusely wrinkled.

Venus undulata, Born, Test. Mus. Vind. p. 67.

Venus rimosa, Philippi.

Tapes rimosa, Sowerby.

Tapes undulata, China.

Hab. China.

This species might be taken at first sight to be a variety of *T. textrix*, but it will be found on inspection to be peculiarly characterized on the anterior side by a sculpture of irregular diagonal wrinkles.

Species 9. (Mus. Cuming.)

TAPES GRATA. *Tap. testā suboblongo-ovatā, modicè inæquilaterali, rufescente-spadiceā, maculis castaneis sparsim quadriradiatā, ad umbones purpurascens tinctā, undique concentricè liratā, liris obtusis, creberrimis, interstitiis lineariter incis.*

THE PLEASING TAPES. Shell rather oblong-ovate, moderately inequilateral, reddish fawn-colour, sparingly four-rayed with chestnut blotches, tinged with purple at the umboes, concentrically ridged throughout, ridges obtuse, very close-set, with the interstices linearly incised.

DESHAYES, Pro. Zool. Soc. p. 10.

Hab. Philippine Islands; Cuming.

Peculiarly closely ridged with great regularity.

Species 10. (Mus. Cuming.)

TAPES SIMILIS. *Tap. testā ovato-cuneiformi, valde inæquilaterali, fulvescente-albā, lineis cinereo-griseis undique reticulatā, concentricè confertim obtusè liratā, liris anticis convexis, posticis planatis.*

THE LIKE TAPES. Shell ovately wedge-shaped, very inequilateral, fulvous-white, reticulated throughout with ash-grey lines, concentrically closely obtusely ridged, anterior ridges convex, posterior flattened.

DESHAYES, Pro. Zool. Soc. 1853, p. 8.

Hab. — ?

Rather more than usually curved in growth, with a copious textile of light grey, sometimes faintly rayed.

Species 11. (Mus. Cuming.)

TAPES TURGIDA. *Tap. testā subquadrato-oblongā, posticè turgidā et obtusè angulatā, fulvo-spadiceā, castaneo pallidè quadriradiatā, lineisque griseis pallidis undatā, concentricè undique densè liratā, liris interdum confluentibus, interstitiis excavatis.*

THE TURGID TAPES. Shell somewhat squarely oblong, posteriorly turgid and obtusely angled, fulvous fawn-colour, faintly four-rayed with chestnut, and waved with pale-grey lines, concentrically closely ridged throughout, ridges sometimes flowing together, with the interstices excavated.

Venus turgida, Lamarck, Anim. sans vert. vol. vi. p. 353.

Venus dorsata, Lamarck.

Venus ovulæa, Lamarck.

Tapes turgida, Sowerby.

Hab. New Holland.

Characterized by a broadly truncated, obtusely angled, turgid growth on the posterior side.

Species 12. (Mus. Cuming.)

TAPES OBSCURATA. *Tap. testā ovato-cuneiformi, suboblongā, valde inæquilaterali, squalidè fulvo-rufescente, griseo obscurè quadriradiatā, solidiusculā, regulariter convexā, densè concentricè liratā, liris anticis elevatiusculis, posticis planulatis.*

THE OBSCURED TAPES. Shell ovately wedge-shaped, rather oblong, very inequilateral, dull fulvous-red, obscurely four-rayed with grey, rather solid, regularly convex, closely concentrically ridged, anterior ridges slightly raised, posterior flattened.

DESHAYES, Pro. Zool. Soc. 1853, p. 9.

Hab. — ?

An evenly convex wedge-shaped shell, with dull obscure traces of colouring.

Species 13. (Fig. *a, b*, Mus. Cuming.)

TAPES DURA. *Tap. testā subangustè ovatā, plerumque turgidā, fulcā vel rufescente-spadiceā, maculis castaneis plus minus radiatā, lineis griseis undatis pallidè reticulatā, concentricè obtusè liratā, liris creberrimis.*

THE ROUGH TAPES. Shell rather narrowly ovate, gene-

rally turgid, fulvous or reddish-fawn, more or less rayed with chestnut blotches, faintly reticulated with waved grey lines, concentrically obtusely ridged, ridges very close-set.

Venus dura, Gmelin, Syst. Nat. p. 3292.

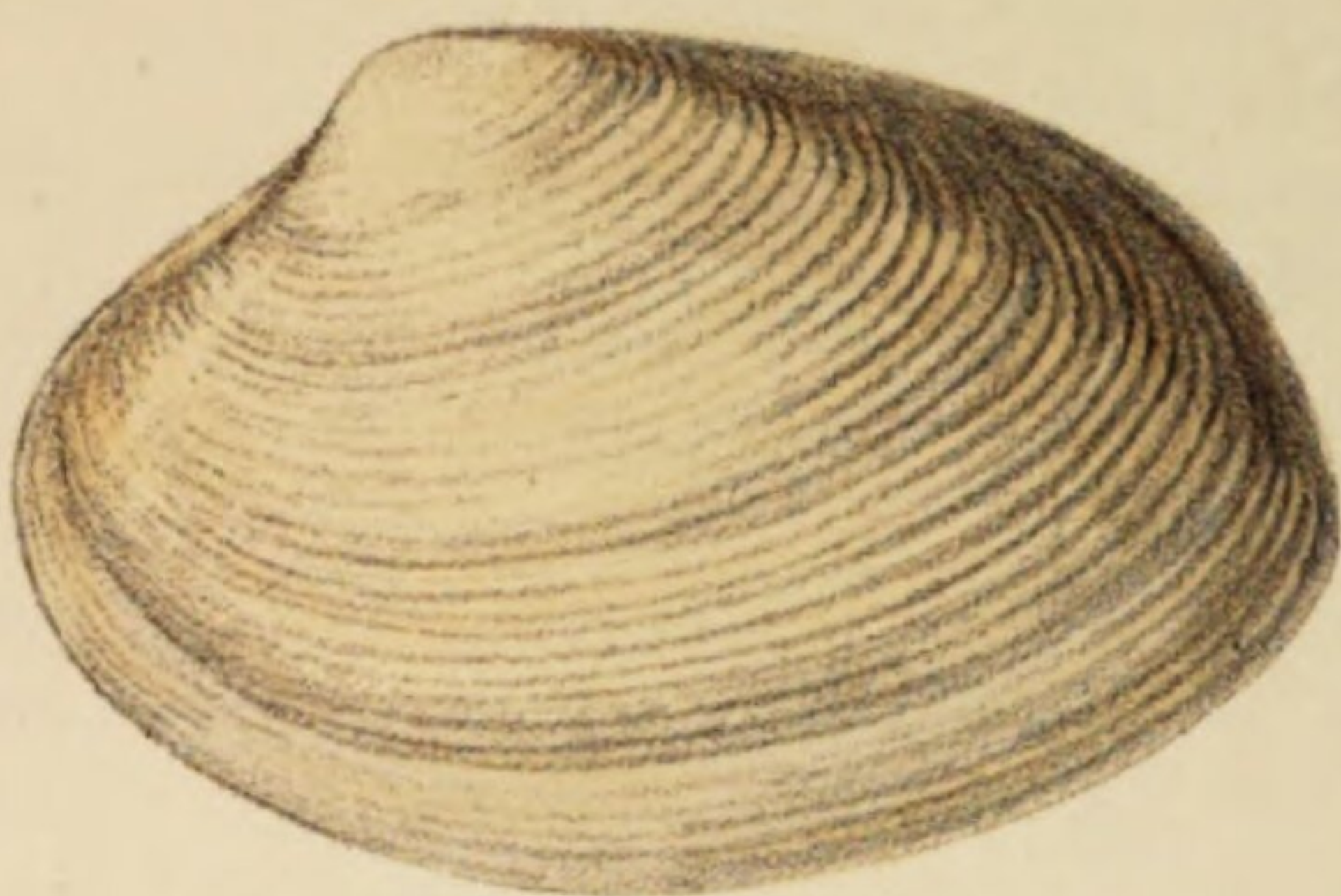
Venus rariflamma, Lamarek.

Tapes rariflamma, Sowerby.

Tapes dura, Deshayes.

Hab. Senegal.

An extremely variable species, from Senegal, Le Pegon of Adanson.



14.



15.a.



15.b.



16.a.



17.a.



17.b.



16.b.

TAPES.

PLATE IV.

Species 14. (Mus. Cuming.)

TAPES ALBA. *Tap. testâ oblongo-ovatâ, posticè subtruncato-angulatâ, sordidè albâ, concentricè rugatâ, rugis valde irregularibus, ad angulum posticum plicatâ.*

THE WHITE TAPES. Shell oblong-ovate, posteriorly somewhat truncately angled, dull white, concentrically wrinkled, wrinkles very irregular, plicated on the posterior angle.

DESHAYES, Pro. Zool. Soc. 1853, p. 9.

Hab. Swan River, Western Australia.

A very characteristic, opaque-white species, of solid growth, sculptured with irregularly concentric wrinkles.

Species 15. (Fig. a, b, Mus. Cuming.)

TAPES VITULATA. *Tap. testâ ovato-cordatâ, posticè obliquè attenuatâ, gibbosiusculâ, albidâ, fulvo-rubente undique copiosè variegatâ, concentricè rudè liratâ, liris anticis corrugato-elevatis, posticis plicato-planatis.*

THE VARIEGATED TAPES. Shell ovately-cordate, posteriorly obliquely attenuated, rather gibbous, whitish, copiously variegated throughout with fulvous-red, concentrically rudely ridged, anterior ridges corrugately raised, posterior plicately flattened.

DESHAYES, MS. in Mus. Cuming.

Hab. —?

I give this species as I find it named by M. Deshayes in Mr. Cuming's cabinet. It comes very near to certain varieties of our British *T. virginea*.

Species 16. (Fig. a, b, Mus. Cuming.)

TAPES RADIATA. *Tap. testâ subquadrato-oblongâ, posticè compressè flabellæformi, truncato-angulatâ, fulvescente-lacteâ, nigro obscure radiatâ et copiosè punctatâ, interdum ustulato-castaneo tinctâ, concentricè densè striato-liratâ.*

THE RAYED TAPES. Shell somewhat squarely oblong, posteriorly compressly fan-shaped, truncately angled, fulvous cream-colour, obscurely rayed and copiously dotted with black, sometimes tinged with burnt-chestnut, concentrically densely striately ridged.

Venus literata radiata, Chemnitz, Conch. Cab. vol. vii. p. 45. pl. 42. f. 439.

Tapes literata, var., Sowerby.

Tapes radiata, Deshayes.

Hab. Indian Ocean.

Many will hesitate to follow M. Deshayes in separating this from *V. literata*; still it is a very characteristic form of it, always readily recognizable.

Species 17. (Fig. a, b, Mus. Cuming.)

TAPES VIRGINEA. *Tap. testâ ovato-oblongâ, posticè subobliquè truncatâ, lacteâ, spadiceo-roseo copiosè variegatâ, concentricè crebriliratâ, liris irregularibus, medio planatis, ad latera plicatis.*

THE VIRGIN TAPES. Shell ovately oblong, posteriorly rather obliquely truncated, cream-colour, copiously variegated with fawn-rose, concentrically closely ridged, ridges irregular, flattened in the middle, plicated at the sides.

Venus virginea, Linnæus, Syst. Nat. p. 1136.

Venus rhomboides, Pennant.

Cuneus fasciatus, Da Costa.

Venus Sarniensis, Turton.

Venerupis Sarniensis, Fleming.

Venerupis virginea, Fleming.

Pullastra virginea, Brown.

Venus virago, Lovén.

Tapes virginea, Forbes and Hanley.

Hab. European Seas.

This well-known species of our own shores presents a beautiful variegation of delicate fawn-rose colour.

TAPES.

PLATE IV.

Fig. 1. (Plate IV.)
The first of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 2. (Plate IV.)
The second of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 3. (Plate IV.)
The third of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 4. (Plate IV.)
The fourth of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 5. (Plate IV.)
The fifth of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 6. (Plate IV.)
The sixth of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 7. (Plate IV.)
The seventh of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 8. (Plate IV.)
The eighth of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 9. (Plate IV.)
The ninth of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 10. (Plate IV.)
The tenth of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.

Fig. 11. (Plate IV.)
The eleventh of the series of tapes, showing the head and the first few segments. The head is small and rounded, with a few bristles. The segments are short and cylindrical, with a slightly expanded posterior end. The color is a pale yellowish-brown.



18.



19.



20.



21.



22.



23.



24.

TAPES.

PLATE V.

Species 18. (Mus. Cuming.)

TAPES SINUOSA. *Tap. testā subtrigono-ovatā, subæquilateralī, fulvā, purpureo radiatim strigatā et variegatā, concentricè undique confertim lamellato-liratā, latere postico sinuosè contorto.*

THE SINUOUS TAPES. Shell somewhat triangularly ovate, subequilateral, fulvous, radiately streaked and variegated with a purple, concentrically closely lamellated throughout, posterior side sinuously

Lamarck, Anim. sans vert. vol. vi. p. 366.

sinuosa, Sowerby.

—?

The general aspect of this species is singularly like that of a *Tellina*.

Species 19. (Mus. Cuming.)

TAPES MEROEFORMIS. *Tap. testā trigono-oblongā, subæquilaterali, compressiusculā, lacteā, circa umbones roseo-spadiceo reticulato-nebulatā, concentricè plicato-liratā, liris obtusis, interdum confluentibus, areā ligamenti subexcavatā, latere postico truncato.*

THE MEROE-SHAPED TAPES. Shell triangularly-oblong, nearly equilateral, rather compressed, cream-colour, reticulately clouded about the umboes with rose-fawn, concentrically plicately ridged, ridges obtuse, sometimes flowing together, ligamentary area slightly excavated, posterior side truncated.

SOWERBY, Thes. Conch. vol. i. p. 745. pl. 163. f. 160.

Hab. Australia.

Another abnormal and beautiful species, partaking in some degree of the characters of *Meroë*.

Species 20. (Mus. Cuming.)

TAPES LIRATA. *Tap. testā subelongato-ovatā, solidā, rufescente-spadiceā, maculis castaneis quadriradiatā, livido-griseo in interstitiis undatā, concentricè lirata, liris prominentibus, confertis.*

THE RIDGED TAPES. Shell rather elongately-ovate, solid, reddish-fawn, four-rayed with chestnut blotches,

waved in the interstices with livid-grey, concentrically ridged, ridges prominent, close-set.

Venus lirata, Philippi, *Abbild. und Besch. Conch.* p. 24. pl. 7. f. 5.

Tapes lirata, Sowerby.

Hab. Philippine Islands; Cuming.

The ridges are of an obtusely callous character, prominent and close-set.

Species 21. (Mus. Cuming.)

TAPES AMABILIS. *Tap. testā ovato-oblongā, roseo-spadiceā vel carneā, lineis griseis obscure reticulato-undatā, concentricè lirata, liris latiusculis, obtusis.*

THE LOVELY TAPES. Shell ovately-oblong, rose fawn-colour, or flesh-colour, obscurely reticulately waved with grey lines, concentrically ridged, ridges rather broad, obtuse.

Venus amabilis, Philippi, *Zeitschr. für Malac.* 1847, p. 90.

Tapes amabilis, Sowerby.

Hab. —?

The concentric ridges are in this species very conspicuously defined, and the colouring is peculiar.

Species 22. (Mus. Cuming.)

TAPES SULCOSA. *Tap. testā subcordato-oblongā, posticè subtruncatā, carneo-lacteā, maculis parviusculis castaneis quadriradiatā, lineis pallidè griseis in interstitiis reticulatā, concentricè dense corrugato-liratā.*

THE GROOVED TAPES. Shell somewhat cordately oblong, posteriorly slightly truncated, flesh-tinted cream-colour, four-rayed with rather small chestnut spots, very faintly reticulated in the interstices with grey lines, concentrically densely wrinkle-ridged.

Venus sulcosa, Philippi, *Zeitschr. für Malac.* 1847, p. 89.

Tapes sulcosa, Sowerby.

Hab. Australia.

The truncated posterior end of this species is peculiar; the ridges very conspicuous and plicately confluent.

Species 23. (Mus. Cuming.)

TAPES DECLIVIS. *Tap. testá elongato-ovatá, subtrigoná, subæquilaterali, ad latus posticum flexuoso-declivi, fulvo-spadiceá, cinereo-griseo biradiatá et copiosè reticulato-variegatá, concentricè densè liratá, liris ad latera flexuoso-confluentibus.*

THE SLOPING TAPES. Shell elongately ovate, somewhat triangular, nearly equilateral, flexuously sloping at the posterior side, fulvous fawn-colour, two-rayed, and copiously reticulately variegated with ash-grey, concentrically densely ridged, ridges flexuously confluent at the sides.

Tapes declivis, Sowb. Th. Conch. vol. i. p. 680. pl. 145. f. 9.

Hab. Philippine Islands; Cuming.

Peculiarly flexuously extended on the posterior side.

Species 24. (Mus. Cuming.)

TAPES SINENSIS. *Tap. testá ovatá, rufescente-spadiceá, castaneo obscurè radiatá et nebulatá, lævigatá vel rugosá, ad latera plicato-corrugatá, rugis versus medium confluentibus, umbonibus rosaceis.*

THE CHINA TAPES. Shell ovate, reddish fawn-colour, obscurely rayed and clouded with chestnut, smooth or rugose, plicately wrinkled at the sides, wrinkles confluent towards the middle, umboes pink.

Hab. China.

A characteristic buff-coloured shell, finely plicately wrinkled on each side, the wrinkles being curiously confluent towards the middle of the shell.



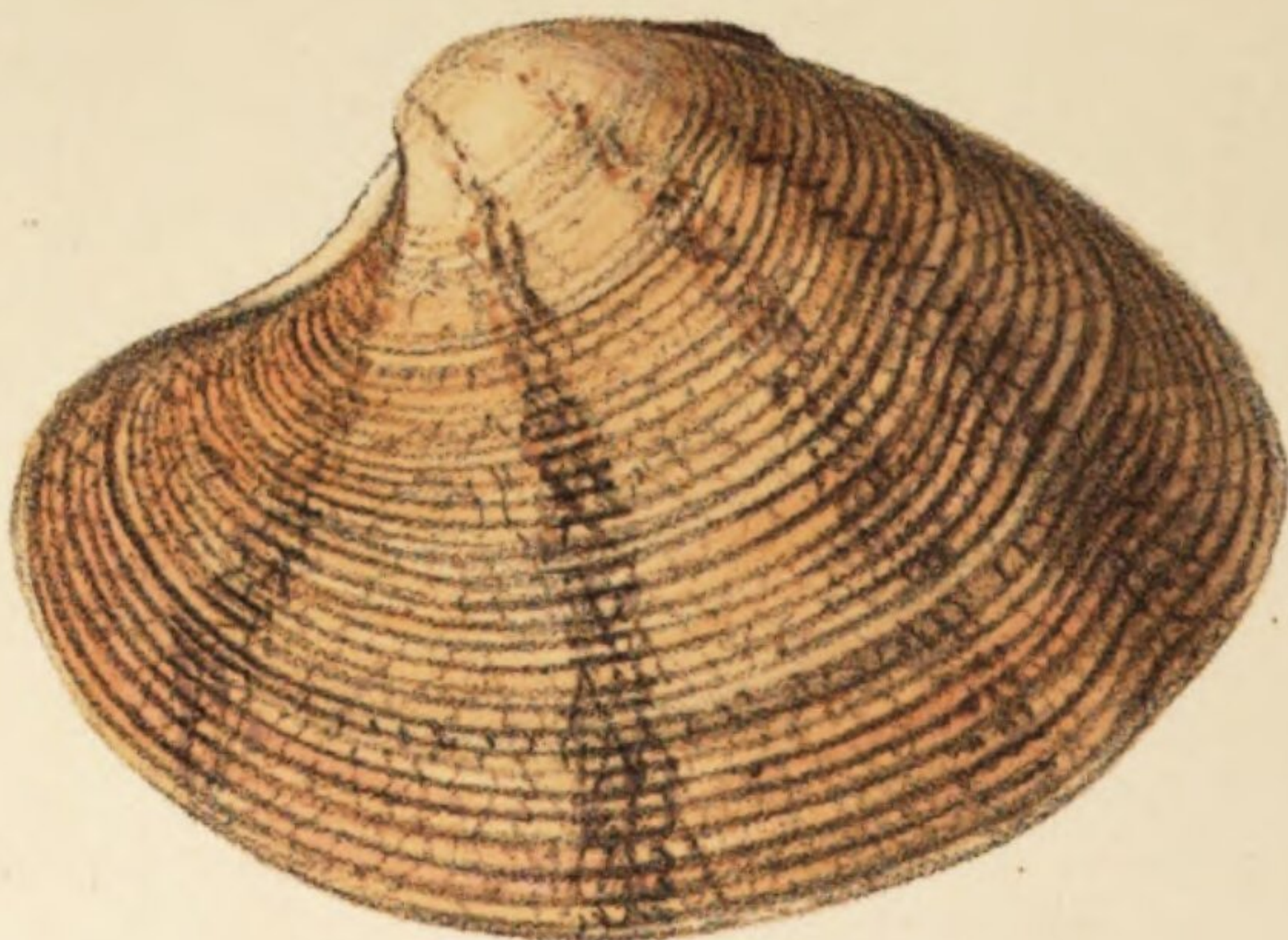
25.



26 a.



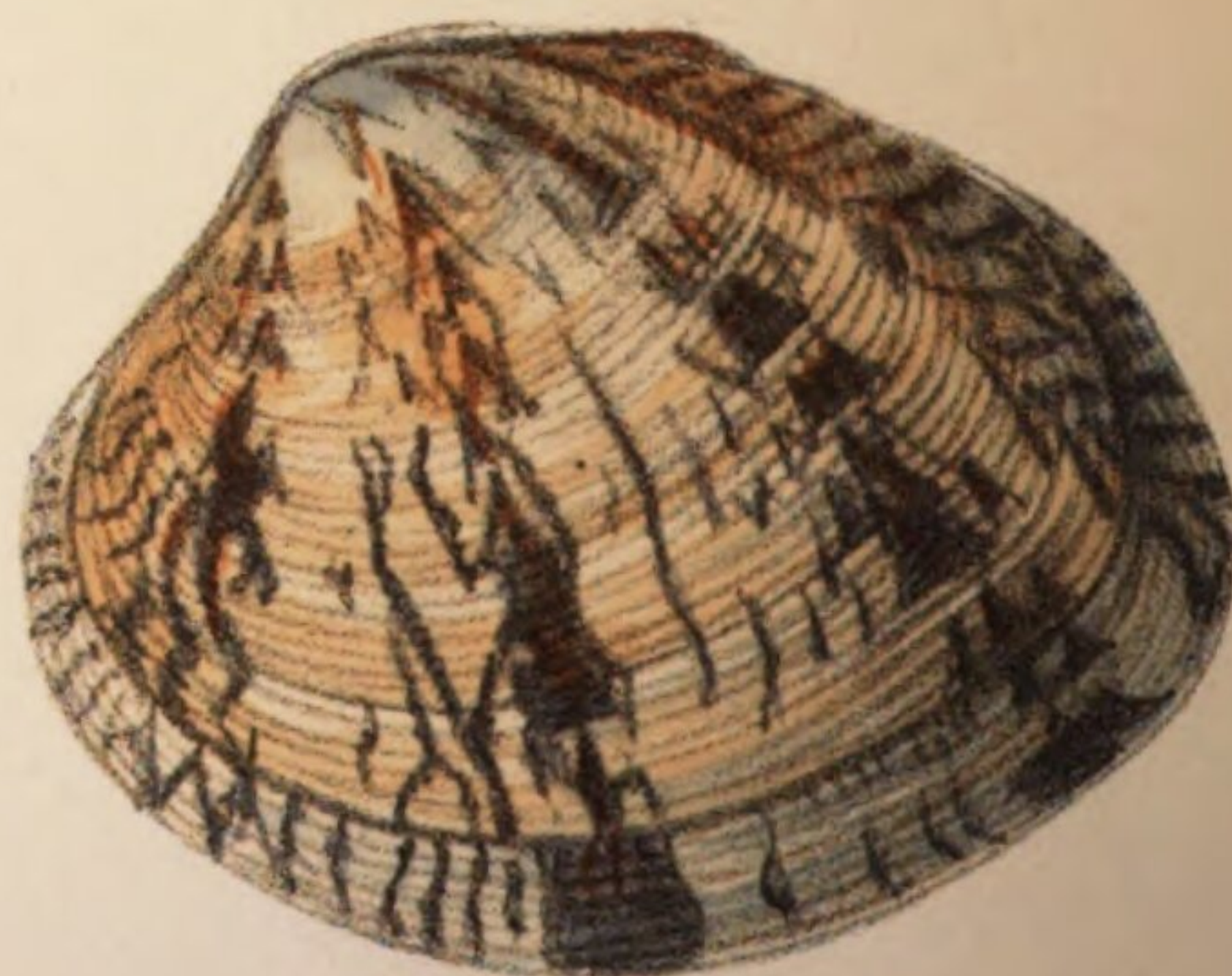
26 b.



27.



28 a.



28 b.



29.

TAPES.

PLATE VI.

Species 25. (Mus. Cuming.)

TAPES LENTIGINOSA. *Tap. testâ sublatè ovatâ, rufescente-spadiceâ, maculis castaneis parvis obscure radiatâ, cinereo-griseo copiosè reticulato-undatâ, concentricè dense liratâ, liris ad latera flexuosè laminatis.*

THE FRECKLED TAPES. Shell rather broadly ovate, reddish-fawn, obscurely rayed with small chestnut spots, copiously reticulately waved with ash-grey, concentrically densely ridged, ridges flexuously lamellated at the sides.

Hab. China; E. L. Layard.

A rather broadly ovate species, in which the ridges are conspicuously defined, and at the sides rise into flexuous laminæ.

Species 26. (Fig. a, b, Mus. Cuming.)

TAPES MARMORATA. *Tap. testâ oblongo-ovatâ, posticè subobliquè productâ, rufescente-fulvâ, livido-griseo variè nebulatâ et tinctâ, posticè lævigatâ, anticè dense plicato-corrugatâ, umbonibus interdum rosaceis.*

THE MARBLED TAPES. Shell oblong-ovate, rather obliquely produced posteriorly, reddish-fulvous, variously clouded and stained with livid-grey, posteriorly smooth, anteriorly densely plicately wrinkled, umboes sometimes tinged with rose.

Cytherea marmorata, Lamarck, Anim. sans vert. vol. vi. p. 261.

Venus variabilis, Philippi.

Tapes laterisulca, Sowerby.

Chione marmorata, Deshayes.

Hab. Bombay.

An extremely variable species; but the colouring is peculiar, and the form and anterior lateral sculpture constant.

Species 27. (Mus. Cuming.)

TAPES MALABARICA. *Tap. testâ cordato-ovatâ, arcuatâ, fulvescente-lacteâ, lineis cinereo-griseis undatis pallidè*

radiatâ et lentiginosâ, concentricè obtusè liratâ, liris confertis, ad latus posticum flexuosis.

THE MALABAR TAPES. Shell cordately ovate, arched, fulvous cream-colour, faintly waved and freckled with ash-grey lines, concentrically obtusely ridged, ridges close-set, and rather flexuous on the posterior side.

Venus Malabarica, Chemnitz, Conch. Cab. vol. vi. p. 323. pl. 31. f. 324, 325.

Venus gallus, Spengler.

Tapes Malabarica, Sowerby.

Hab. Malabar.

Chiefly distinguished by its arched cordate form, and somewhat flexuous posterior side.

Species 28. (Fig. a, b, Mus. Cuming.)

TAPES HIAINTINA. *Tap. testâ subquadrato-ovatâ, posticè obliquè truncatâ, tumidâ, fulvescente-lacteâ, olivaceo-griseo variè reticulato-flammatâ, concentricè tenuiliratâ, liris obtusis vel plicato-planatis, umbonibus lividis.*

THE GAPING TAPES. Shell somewhat squarely ovate, posteriorly obliquely truncated, tumid, fulvous cream-colour, variously reticulately flamed with olive-grey, concentrically finely ridged, ridges obtuse or plicately flattened, umboes livid.

Venus hiantina, Lamarck, Anim. sans vert. vol. vi. p. 350.

Venus flammiculata, Lamarck.

Tapes flammiculata, Sowerby.

Chione hiantina, Deshayes.

Hab. Australian Seas.

This interesting species varies considerably, both in form and colour, yet there is nevertheless a peculiarity about the flamed painting which renders it easy of recognition.

Species 29. (Mus. Cuming.)

TAPES RIMULARIS. *Tap. testâ subquadrato-ovatâ vel globosâ, sordidè fulvâ, livido-griseo tinctâ, concentricè liratâ, liris ad latus posticum planatis et plicato-confluentibus, latere postico truncato-angulato.*

TAPES.—PLATE VI.

THE CLEFTED TAPES. Shell somewhat squarely ovate or globose, dull fulvous, tinged with livid-grey, concentrically ridged, ridges flattened, and plicately confluent on the posterior side, posterior side truncately angled.

Venus rimularis, Lamarck, Anim. sans vert. vol. vi. p. 367.

Tapes rimularis, Sowerby.

Chione rimularis, Deshayes.

Hab. — ?

This is a form of the preceding species, without marking, in which the ridges are peculiarly flattened and plicately confluent.



30 a.



31 b.



31 a.



32.



33 a.



33 b.



30 b.

TAPES.

PLATE VII.

Species 30. (Fig. *a, b*, Mus. Cuming.)

TAPES CEYLONENSIS. *Tap. testā ovali, interdum oblongā, crassā, gibbosā, fulvescente-carneā, cinereo-griseo interdum lineari-undulatā et obscure radiatā, lævigatā, nitente.*

THE CEYLON TAPES. Shell oval, sometimes oblong, thick, gibbous, fulvous flesh-colour, sometimes linearly waved and obscurely rayed with ash-grey, smooth, shining.

SOWERBY, Thes. Conch. vol. i. p. 683. pl. 146. f. 24, 25.
Chione Ceylonensis, Deshayes.

Hab. Ceylon.

The species grouped together in this Plate partake largely of the characters of *Cytherea*, and may be referred to either genus. This and *T. pinguis* are especially connected with *Dione* and *Cytherea*; but, as being arranged in Mr. Cuming's collection by Mr. Sowerby under *Tapes*, I have not thought it worth while to displace them.

Species 31. (Fig. *a, b*, Mus. Cuming.)

TAPES FUMIGATA. *Tap. testā anticè cordatā, posticè obliquè acuminatā, fulvescente-lacteā vel cinereo-griseā, lævigatā, nitente, margine postico concentricè lineari-sulcato.*

THE SMOKED TAPES. Shell anteriorly heart-shaped, posteriorly obliquely acuminate, fulvous cream-colour or ash-grey, smooth, shining, posterior margin concentrically linearly grooved.

Venus fumigata, Sowerby, Thes. Conch. vol. i. p. 737. pl. 159. f. 152 to 155.

Chione fumigata, Deshayes.

Hab. Australia; Strange.

A smooth shell, of a smoky fulvous or ash-grey colour, delicately carved with concentric lines down the posterior margin. Mr. Sowerby refers this shell to *Venus*, but it partakes more of the character of *Tapes* than the preceding species.

Species 32. (Mus. Cuming.)

TAPES TURGIDULA. *Tap. testā trigono-cordatā, elongato-curvatā, inæquilaterali, concentricè irregulariter corrugato-liratā, fulvescente-spadiceā, griseo obscure radiatā et reticulatā, latere antico brevi, subacuminato, postico amplo, flexuoso, turgido.*

THE SWOLLEN TAPES. Shell triangularly heart-shaped, elongately curved, inequilateral, concentrically irregularly wrinkle-ridged, fulvous fawn-colour, obscurely rayed and reticulated with grey, anterior side short, rather acuminate, posterior large, flexuous, swollen.

DESHAYES, Pro. Zool. Soc. 1853, p. 8.

Hab. Philippine Islands; Cuming.

This is a true *Tapes*, of a characteristic curved form, rather acuminate anteriorly, whilst the posterior side is comparatively large and swollen.

Species 33. (Fig. *a, b*, Mus. Cuming.)

TAPES PINGUIS. *Tap. testā ovato-cordatā, interdum globosā, crassā, conspicuè turgidā, fulvescente-lacteā aut carneā, nigricante vel fusco nebulatā et radiatim variegatā, lævigatā, nitente.*

THE FAT TAPES. Shell ovately cordate, sometimes globose, thick, conspicuously turgid, fulvous cream-colour or flesh-colour, clouded and radiately variegated with black or brown, smooth, shining.

Venus pinguis, Chemnitz, Conch. Cab. vol. vi. p. 355. pl. 34. f. 355 to 357.

Venus triradiata, Chemnitz.

Venus nebulosa, Chemnitz.

Venus opima, Gmelin.

Pullastra nebulosa, Sowerby.

Tapes pinguis, Sowerby.

Chione pinguis, Deshayes.

Hab. Indian Ocean.

Of a conspicuous globosely turgid form, solid and smooth.

TAPES

Page 100

Section II. (171 & 172) (Continued)

The first of these is the fact that the tape is not a simple line, but a series of small, irregular, and often very close, loops. These loops are the result of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract.

Section II. (171 & 172) (Continued)

The second of these is the fact that the tape is not a simple line, but a series of small, irregular, and often very close, loops. These loops are the result of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract.

Section II. (171 & 172) (Continued)

The third of these is the fact that the tape is not a simple line, but a series of small, irregular, and often very close, loops. These loops are the result of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract.

Section II. (171 & 172) (Continued)

The fourth of these is the fact that the tape is not a simple line, but a series of small, irregular, and often very close, loops. These loops are the result of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract.

Section II. (171 & 172) (Continued)

The fifth of these is the fact that the tape is not a simple line, but a series of small, irregular, and often very close, loops. These loops are the result of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract.

Section II. (171 & 172) (Continued)

The sixth of these is the fact that the tape is not a simple line, but a series of small, irregular, and often very close, loops. These loops are the result of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract, or of the tape being drawn out and then allowed to contract.



34 a.



35.



34 b.



36 a.



37 a.



37 b.



36 b.



38 a.



38 b.



39.

TAPES.

PLATE VIII.

Species 34. (Fig. *a, b*, Mus. Cuming.)

TAPES ORIENTALIS. *Tap. testâ ovatâ, subventricosâ, fulvescente-spadiceâ, fumeo-fusco plus minus tinctâ et interruptè reticulatâ, concentricè corrugato-liratâ, liris obtusis, hic illic confluentibus, posticè plicato-expansis.*

THE EASTERN TAPES. Shell ovate, slightly ventricose, fulvous-fawn, more or less stained and interruptedly reticulated with smoky-brown, concentrically corrugately ridged, ridges obtuse, here and there confluent, posteriorly plicately expanded.

Hab. Bombay.

Of this apparently undescribed species Mr. Cuming possesses several varieties, closely allied in sculpture and general aspect.

Species 35. (Mus. Cuming.)

TAPES OCCIDENTALIS. *Tap. testâ ovatâ, posticè subflexuosâ, flavescence-lacteâ, nigricante interruptè reticulato-nebulatâ, concentricè corrugato-liratâ, liris obtusis, irregulariter confluentibus, posticè plicato-expansis.*

THE WESTERN TAPES. Shell ovate, posteriorly slightly flexuous, yellowish cream-colour, interruptedly reticulately clouded with black, concentrically corrugately ridged, ridges obtuse, irregularly confluent, posteriorly plicately expanded.

Hab. Guadaloupe, West Indies.

Singularly like the preceding species in design of sculpture, though the two species are from opposite hemispheres. In form and colour they are obviously distinct.

Species 36. (Fig. *a, b*, Mus. Cuming.)

TAPES PHILIPPII. *Tap. testâ trigono-ovatâ, compressâ, posticè subacuminatâ, rufescente-spadiceâ, griseo pallidè reticulatâ, concentricè lirâtâ, liris confertis, obtusis, hic illic confluentibus.*

PHILIPPI'S TAPES. Shell triangularly ovate, compressed, posteriorly rather acuminate, reddish fawn-colour, faintly reticulated with grey, concentrically ridged, ridges close-set, obtuse, here and there confluent.

Venus striata, pars, Sowerby, *Thes. Conch.* vol. i. p. 735.
Chione Philippii, Deshayes.

Hab. China. Philippine Islands.

This species, which M. Deshayes refers to his genus *Chione*, appears to me to be an undoubted *Tapes*.

Species 37. (Fig. *a, b*, Mus. Cuming.)

TAPES AUREA. *Tap. testâ oblongo-cuneiformi, albidâ vel fulvescente, griseo vel fusco promiscuè flammâtâ vel tenuireticulatâ, concentricè tenuiliratâ, liris confertis, hic illic confluentibus, latere antico abruptè abbreviato, medio turgido, postico plus minus acuminato.*

THE GOLDEN TAPES. Shell oblong wedge-shaped, white or fulvous, promiscuously flamed and finely reticulated with grey or brown, concentrically finely ridged, ridges close-set, here and there confluent, anterior side abruptly shortened, middle swollen, posterior side more or less acuminate.

Venus aurea, Gmelin, *Syst. Nat.* p. 3288.

Tellina fasciata, Lister.

Venus edulis, Chemnitz.

Venus aenea, Turton.

Venus nitens, Turton.

Pullastra aurea, Brown.

Tapes aurea, Forbes and Hanley.

Hab. European Seas.

This well-known *Tapes* of our own shores may be readily distinguished by its peculiarly turgid wedge-like form.

Species 38. (Fig. *a, b*, Mus. Cuming.)

TAPES KOCHII. *Tap. testâ anticè globoso-cordatâ, turgidâ, posticè flexuoso-acuminatâ, albidâ, cærulescente-griseo vel fumeo-fusco reticulato-variegatâ aut nebulatâ, lævigatâ, nitente, obscurè concentricè striatâ.*

KOCH'S TAPES. Shell anteriorly globosely cordate, swollen, posteriorly flexuously acuminate, whitish, reticulately variegated or clouded with blue-grey or smoky-brown, smooth, shining, obscurely concentrically striated.

Venus Kochii, Philippi, *Abbild. und Besch. Conch.* vol. i. p. 3. pl. 1. f. 5.

Chione Kochii, Deshayes.

Hab. — ?

More flexuously acuminate than the preceding species, with the anterior portion of the shell swollen into an abrupt convexity.

Species 39. (Mus. Cuming.)

TAPES FABA. *Tap. testā ovato-trigonā, subcuneiformi, versus marginem compressā, pallidè spadiceā, fuscescēte interruptè reticulato-triradiatā, lævigatā, nitente, latere antico rotundato, postico subacuminato.*

THE BEAN TAPES. Shell ovately triangular, somewhat wedge-shaped, compressed towards the margin, light fawn-colour, interruptedly reticulately three-rayed with light-brown, smooth, shining, anterior side rounded, posterior rather acuminate.

Hab. —?

This species partakes of the characters of *T. Kochii* and *fumigata*, without being satisfactorily referable to either species.



41



40.



42



43.



44a.



44b.



45a.



45b.



46a.



46b.

TAPES.

PLATE IX.

Species 40. (Mus. Cuming.)

TAPES LUZONICA. *Tap. testā ovatā, fulvescente, purpurascens-fusco copiosè reticulato-aspersā et obscurè radiatā, concentricè liratā, liris prominentibus, corrugato-confluentibus, latere postico fulvescente-maculato.*

THE LUZON TAPES. Shell ovate, fulvous, copiously reticulately sprinkled, and obscurely rayed with purple-brown, concentrically ridged, ridges prominent, corrugately confluent, posterior side fulvous-spotted.

SOWERBY, Thes. Conch. vol. i. p. 687. pl. 149. f. 100, 101.

Hab. Island of Luzon, Philippines; Cuming.

A species in which the ridges are prominent and the colouring unusually copious.

Species 41. (Mus. Cuming.)

TAPES KRAUSSI. *Tap. testā abruptè cuneiformi, crassā, gibbosiusculā, spadiceā, griseo radiatim pallidè tinctā, concentricè obtusè corrugatā, rugis latè planulatis, ferè obsoletis.*

KRAUSS'S TAPES. Shell abruptly wedge-shaped, thick, rather gibbous, fawn-colour, faintly radiately tinged with grey, concentrically obtusely wrinkled, wrinkles broadly flattened, almost obsolete.

Chione Kraussi, Deshayes, Cat. Conch. Brit. Mus. p. 154.

Venus pauperula, var., Krauss.

Hab. Natal.

Of a peculiarly shortened wedge-like form, faintly coloured, and rather obscurely obtusely sculptured.

Species 42. (Mus. Cuming.)

TAPES BICOLORATA. *Tap. testā oblongo-ovali, valde inæquilaterali, sordidè lacteā, nigricans-fusco et aurantio-rufo sparsim reticulato-maculatā, concentricè liratā, liris plicato-planatis, hic illic confluentibus.*

THE TWO-COLOURED TAPES. Shell oblong-oval, very inequilateral, dull cream-colour, sparingly reticulately blotched with blackish-brown and orange-red, concentrically ridged, ridges plicately flattened, here and there confluent.

Hab. —?

The curious mingling of blackish-brown and orange-red

in the colouring of this shell appears to be of specific importance.

Species 43. (Fig. 43 and 46 a, Mus. Cuming.)

TAPES JAPONICA. *Tap. testā subquadrato-trigonā, medio turgidā, posticè flexuoso-angulatā, fulvescente-lacteā, griseo lineari-undatā, interdum obscurè radiatā, concentricè liratā, liris callosis, subacutè reflexis.*

THE JAPAN TAPES. Shell somewhat squarely triangular, turgid in the middle, flexuously angled posteriorly, fulvous cream-colour, linearly waved with grey, sometimes obscurely rayed, concentrically ridged, ridges callous, rather sharply reflected.

Venus Japonica, Gmelin, Syst. Nat. p. 3279.

Venus striata, pars, Sowerby.

Chione Japonica, Deshayes.

Hab. China. Japan.

Of a peculiar callous ivory-like substance, more or less profusely painted with zigzag waves of ash-grey.

Species 44. (Fig. a, b, Mus. Cuming.)

TAPES TRISTIS. *Tap. testā obliquè subcordatā, subcompressā, posticè flexuoso-productā, fulvā, violaceo-cinereo undique tinctā, præsertim versus marginem, concentricè liratā, liris latè obtusis, reflexis, interstitiis excavatis.*

THE DULL TAPES. Shell obliquely subcordate, rather compressed, posteriorly flexuously produced, fulvous, tinged throughout with violet-ash, especially towards the margin, concentrically ridged, ridges broadly obtuse, reflected, with the interstices excavated.

Venus tristis, Lamarck, Anim. sans vert. vol. vi. p. 366.

Chione tristis, Deshayes.

Chione regularis, Deshayes.

Hab. Australia and Philippine Islands.

After a careful examination of the type of M. Deshayes' *Chione regularis*, I have no hesitation in referring it to this comparatively colourless species.

Species 45. (Fig. a, b, Mus. Cuming.)

TAPES STRIATA. *Tap. testā anticè tumido-cordatā, posticè*

flexuoso-acuminatá, fulvá, pallidè griseo sæpissimè lineari-undatá et lentiginosá, concentricè dense liratá, liris subcallosis, hic illic confluentibus.

THE STRIATED TAPES. Shell anteriorly tumidly cordate, posteriorly flexuously acuminate, fulvous, frequently linearly waved and freckled with pale-grey, densely concentrically ridged, ridges rather callous, here and there confluent.

Venus striata, Chemnitz, Conch. Cab. vol. vi. p. 358. pl. 34. f. 365, 366.

Venus Labuana, Adams and Reeve.

Chione striata, Deshayes.

Hab. Eastern Seas.

Resembling *T. Kochii* in form; but instead of being smooth, the shell is densely concentrically ridged throughout.

Species 46. (Fig. 46 b, Mus. Cuming.)

TAPES BIRADIATA. *Tap. testá suboblongo-ovatá, lacteá, pallidè griseo lineari-reticulatá, et castaneo conspicuè biradiatá, concentricè liratá, liris prominulis, callosis, subreflexis.*

THE TWO-RAYED TAPES. Shell rather oblong-ovate, cream-colour, linearly reticulated with pale-grey, and conspicuously two-rayed with chestnut, concentrically ridged, ridges rather prominent, callous, slightly reflected.

DESHAYES, Pro. Zool. Soc. 1853, p. 9.

Hab. Philippine Islands; Cuming.

A characteristic oval species, blotched on a faint grey-waved ground, with two broad rays of chestnut blotches.

The shell represented at Fig. 46 a, originally placed with this in Mr. Cuming's collection, is a variety of *T. Japonica*.



47.



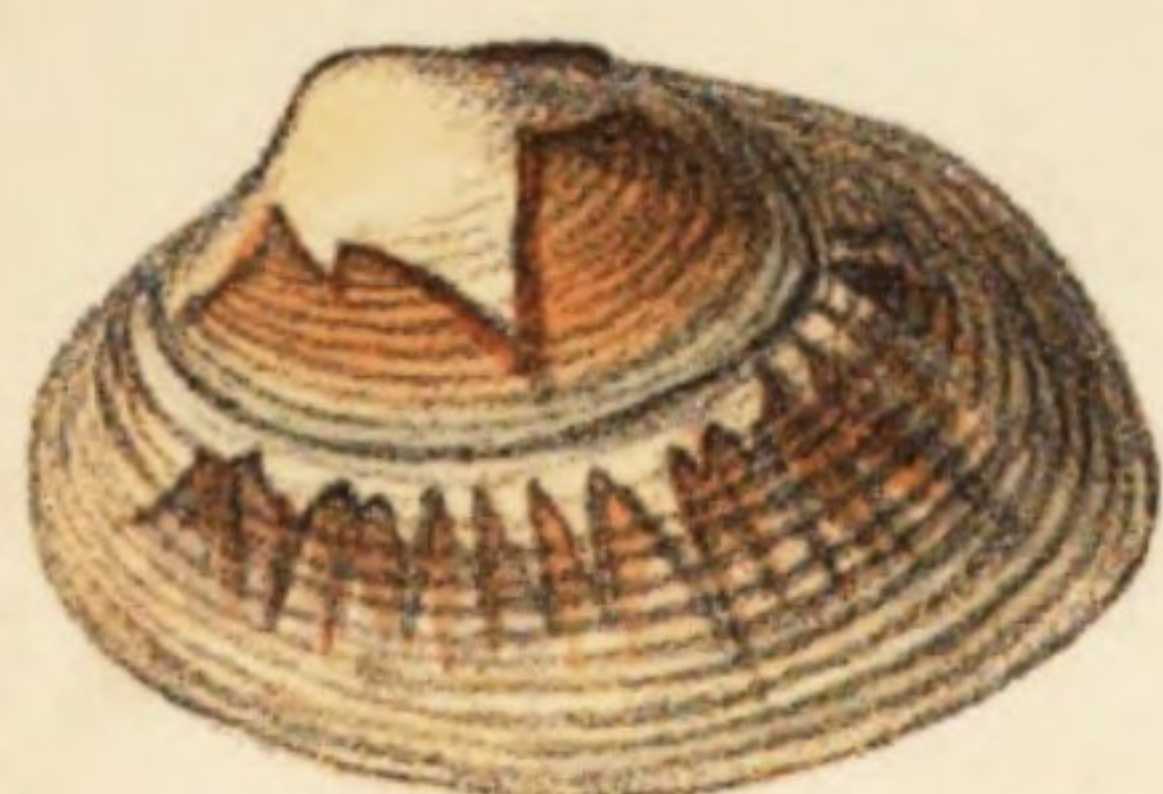
48



49.



50.



51.



52.



53. a.



53. b.



55.



54.

TAPES.

PLATE X.

Species 47. (Mus. Cuming.)

TAPES LIVIDA. *Tap. testā suboblongo-ovatā, tenui, compressā, livido-fulvā, radiatim tenuiliratā, extremitate posticā lævigatā, subangulatā.*

THE LIVID TAPES. Shell rather oblong-ovate, thin, compressed, livid fulvous, radiately thinly ridged, posterior end smooth, slightly angled.

Hab. — ?

A small, rather fragile shell, ridged in a direction radiating from the umboes.

Species 48. (Mus. Cuming.)

TAPES VERNICOSA. *Tap. testā elongato-ovatā, crassā, compressā, fulvescente-lacteā, aurantio-rufo lentiginosā, maculis castaneis interruptis quadriradiatā, lævigatā, nitente, ad marginem posticum plicato-sulcatā.*

THE VARNISHED TAPES. Shell elongately ovate, thick, compressed, fulvous cream-colour, freckled with orange-red, and four-rayed with interrupted chestnut blotches, smooth, shining, plicately grooved at the posterior margin.

Hab. — ?

This species, with a smooth porcellanous surface, is characterized by a style of painting which belongs commonly to ridged species.

Species 49. (Mus. Cuming.)

TAPES POLITA. *Tap. testā subelongato-ovatā, ventricosā, rubescente-fulvā, pallidè griseo apertè lineari-undatā, umbonibus sanguineis, lævigatā, nitente, versus marginem obscurè plicato-liratā.*

THE POLISHED TAPES. Shell somewhat elongately ovate, ventricose, reddish-fulvous, openly linearly waved with pale-grey, umboes blood-red, smooth, shining, obscurely plicately ridged towards the margin.

SOWERBY, Thes. Conch. vol. i. p. 682. pl. 145. f. 15, 16.
Hab. Sydney, New Holland.

At first sight this species has very much the appearance of a young *T. textrix*.

Species 50. (Mus. Cuming.)

TAPES AMPHIDESMOIDES. *Tap. testā suborbiculari-ovatā, medio turgido-convexā, fulvo-ferrugineā, cinereo-fusco punctato-lentiginosā, umbonibus carneo-roseis, circa umbones densè striatā, deinde corrugato-liratā, liris planatis et obliquè declivi-confluentibus, sub lente radiatim undique minutissimè striatā.*

THE AMPHIDESMA-LIKE TAPES. Shell somewhat orbicularly ovate, turgidly convex in the middle, fulvous-rust, dot-freckled with ash-brown, umboes flesh-pink, around the umboes densely striated, then corrugately ridged, ridges flattened, and obliquely slopingly confluent, beneath the lens radiately very minutely striated throughout.

Hab. Red Sea.

It will be seen by an observance of the above characters, that this is a species of quite a distinct type.

Species 51. (Mus. Cuming.)

TAPES FERRUGINEA. *Tap. testā ovato-oblongā, compressiusculā, lacteā, ferrugineo promiscuè undato-nebulatā, concentricè lirātā, liris plicato-planatis, valde irregularibus, hic illic bifurcatis et confluentibus.*

THE RUST-STAINED TAPES. Shell ovately oblong, rather compressed, cream-colour, promiscuously wave-clouded with rust, concentrically ridged, ridges plicately flattened, very irregular, here and there bifurcate and confluent.

Hab. Philippine Islands; Cuming.

Approximating in character to the Bombay *T. orientalis*, but certainly distinct.

Species 52. (Mus. Cuming.)

TAPES ARCTICA. *Tap. testā subcuneiformi-ovatā, compressā, anticè abruptè declivi, posticè attenuato-productā, calcareo-albā, epidermide corneā cinereā lævigatā nitente indutā, ad umbones erosā, deinde irregulariter subplicatā.*

THE ARCTIC TAPES. Shell somewhat cuneiformly ovate,

compressed, anteriorly abruptly sloping, posteriorly attenuately produced, chalk-white, covered with a smooth shining ash-coloured horny epidermis, eroded at the umboes, then irregularly slightly plicated.

Hab. Arctic Seas.

A distinct and quite abnormal form of *Tapes*, if *Tapes* at all.

Species 53. (Fig. a, b, Mus. Cuming.)

TAPES FLORIDELLA. *Tap. testā subangustē ovatā, utrinque subobliquē attenuatā, medio turgidā, fulvescente-lacteā, griseo profusē reticulato-lentiginosā, plus minus distinctē intensē sex-radiatā, concentricē densē subtiliter corrugato-liratā.*

THE BLOOMING TAPES. Shell rather narrowly ovate, somewhat obliquely attenuated on either side, swollen in the middle, fulvous cream-colour, profusely reticulately freckled with grey, more or less distinctly darkly six-rayed, concentrically densely finely wrinkle-ridged.

Venus floridella, Deshayes, Anim. sans vert. vol. vi. p. 365.

Tapes floridella, Deshayes.

Hab. — ?

Of a peculiar form, minutely elaborated in respect both of colour and sculpture.

Species 54. (Mus. Cuming.)

TAPES PETALINA. *Tap. testā subangustē ovatā, ventri-*

cosā, fulvescente-lacteā, ferrugineo et violaceo-griseo variē nebulatā et reticulatā, pallidē radiatā, latere antico concentricē tenuē lirato et sulcato, postico lævigato.

THE PETAL-LIKE TAPES. Shell rather narrowly ovate, ventricose, fulvous cream-colour, variously clouded and reticulated with rust and violet-grey, faintly rayed, anterior side concentrically finely ridged and grooved, posterior smooth.

Venus petalina, Lamarck, Anim. sans vert. vol. vi. p. 365.

Venus Beudanti, Payraudeau.

Tapes petalina, Sowerby.

Hab. Mediterranean Sea.

Resembling the preceding species in general aspect, but it will be found on comparison that *T. petalina* is smooth on the posterior half of the shell.

Species 55. (Mus. Cuming.)

TAPES TENUISTRIATA. *Tap. testā abruptē cuneiformi, posticē subexpansā, albidā, pallidē rosaceo-cinereo latiradiatā, concentricē liratā, liris confertis, hic illic confluentibus, ad latus posticum obtusē planatis.*

THE FINELY-STRIATED TAPES. Shell abruptly wedge-shaped, posteriorly rather expanded, whitish, broadly rayed with pale pinkish ash-colour, concentrically ridged, ridges close-set, here and there confluent, obtusely flattened on the posterior side.

SOWERBY, Thes. Conch. vol. i. p. 687. pl. 148. f. 78, 79.

Hab. — ?

A very delicately-coloured species, without any indication of marking.



56.a.



56.b.



57.a.



57.b.



58.a.



58.b.



59

TAPES.

PLATE XI.

Species 56. (Fig. *a, b*, Mus. Cuming.)

TAPES INDICA. *Tap. testâ subquadrato-oblongâ vel rhomboideâ, fulvâ, ferrugineo tinctâ, cinereo-fusco variè radiatim flammâtâ, umbonibus carneo-rosaceis, undique confertim decussatâ, ad latera nodoso-crenulatâ.*

THE INDIAN TAPES. Shell somewhat squarely oblong or rhomboid, fulvous, tinged with rust, variously radiately flamed with ash-brown, umboes tinged with flesh-pink, closely decussated throughout, nodosely crenulated at the sides.

SOWERBY, Thes. Conch. vol. i. p. 694. pl. 151. f. 146, 147.

Hab. Indian Ocean.

The European *T. decussata* is very closely represented in the Indian Ocean by this species. In sculpture the two species are almost identical, the present having, however, a more tropical look in being more sharply crenulated, with the colour a deeper pink at the umboes.

Species 57. (Fig. *a, b*, Mus. Cuming.)

TAPES DECUSSATA. *Tap. testâ subquadrato-oblongâ, fulvo-ferrugineâ, cinereo-fusco promiscuè radiatim lenticinosâ, undique confertim decussatâ, ad latera obtusè crenulatâ.*

THE DECUSSATED TAPES. Shell somewhat squarely oblong, fulvous-rust, promiscuously radiately freckled with ash-brown, closely decussated throughout, obtusely crenulated at the sides.

Venus decussata, Linnæus, Syst. Nat. p. 1135.

Venus literata, Pennant.

Venus deflorata, Born.

Cuneus reticulatus, Da Costa.

Venus obscura, Gmelin.

Venus sanguinolenta, Gmelin.

Venus florida, Poli.

Pullastra decussata, Anton.

Venerupis decussata, Macgillivray.

Tapes decussata, Forbes and Hanley.

Hab. European Seas.

Of a duller rusty hue than the preceding species, with the sculpture more obtuse.

Species 58. (Fig. *a, b*, Mus. Cuming.)

TAPES PULLASTRA. *Tap. testâ quadrato-oblongâ, interdum latiusculâ, albidâ, ferrugineo tinctâ, maculis*

cinereis posticè radiatâ, undique minutè obsoletè decussatâ, hic illic quasi lævigatâ, areâ posticâ plicato-corrugatâ.

THE DUSKY TAPES. Shell squarely oblong, sometimes rather broad, white, tinged with rust, posteriorly rayed with ash blotches, minutely obsoletely decussated throughout, here and there as if smooth, posterior area plicately wrinkled.

Venus pullastra, Montagu, Test. Brit. p. 125.

Venus perforans, Montagu.

Venus Senegalensis, Dillwyn.

Venerupis perforans, Lamarck.

Venerupis nucleus, Lamarck.

Venus palustris, Mawe.

Venerupis pullastra, Fleming.

Venerupis vulgaris, Sowerby.

Venus vulgaris, Broderip.

Pullastra vulgaris, Brown.

Pullastra perforans, Brown.

Venus plagia, Jeffreys.

Tapes pullastra, Forbes and Hanley.

Hab. European and North African Seas.

In this well-known species of our shores the decussation is very elaborate, though nearly obsolete in places. The posterior area of the shell is especially characterized by a textile of wavy wrinkles.

Species 59. (Mus. Cuming.)

TAPES INTERMEDIA. *Tap. testâ obliquè quadratâ, posticè obtusè declivi-angulatâ, fulvescente-ferrugineâ, concentricè densè liratâ, liris anticis subreflexis, medianis profusè bifurcatim confluentibus, posticis obtusè planatis.*

THE INTERMEDIATE TAPES. Shell obliquely quadrate, posteriorly obtusely slopingly angled, fulvous rust-colour, concentrically densely ridged, anterior ridges somewhat reflected, middle ridges profusely bifurcately confluent, posterior ridges obtusely flattened.

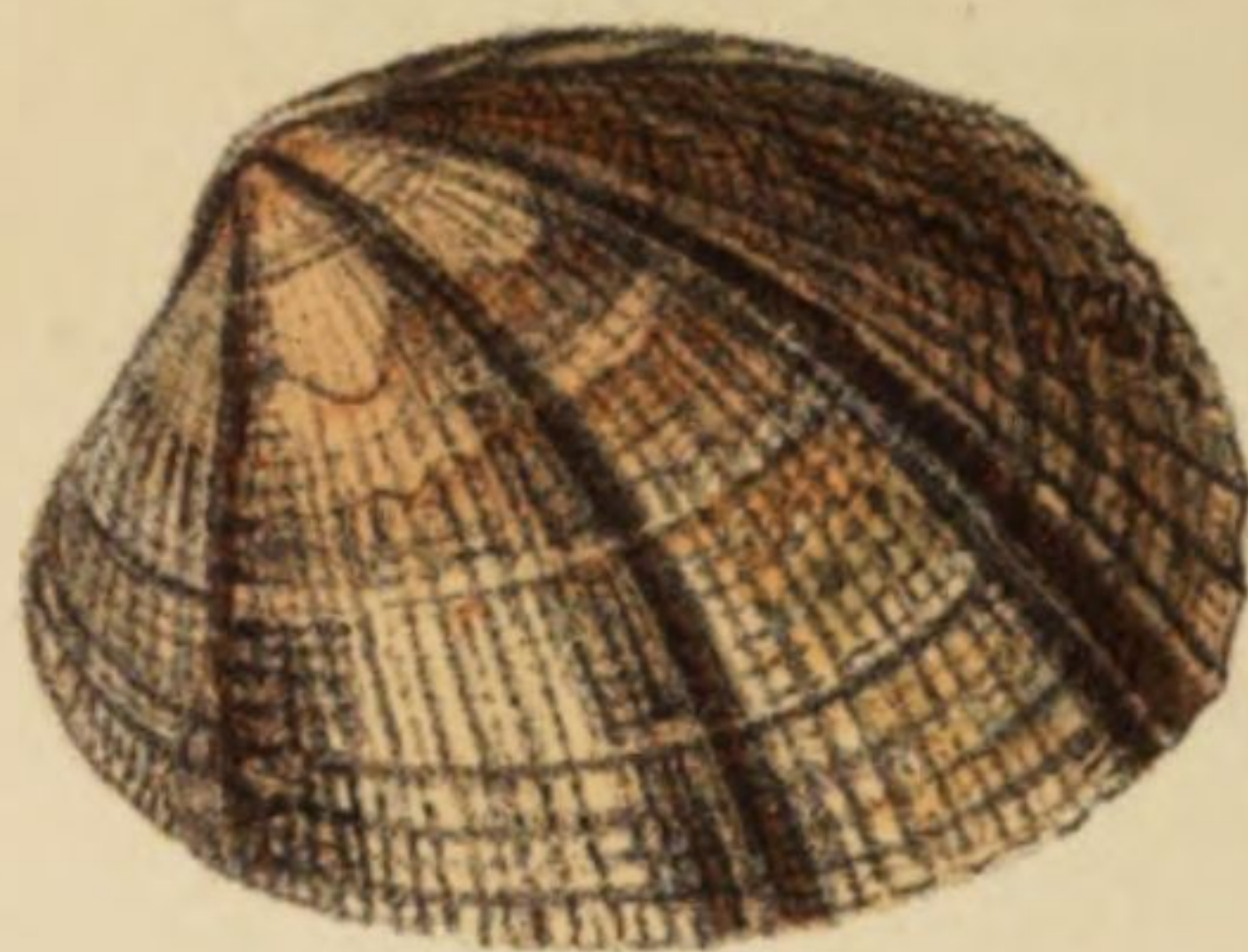
Venus intermedia, Quoy and Gaimard, Voy. de l'Astrolabe, Moll. pl. 84. f. 9. 10.

Venus Largillierti, Philippi.

Tapes intermedia, Sowerby.

Hab. New Zealand.

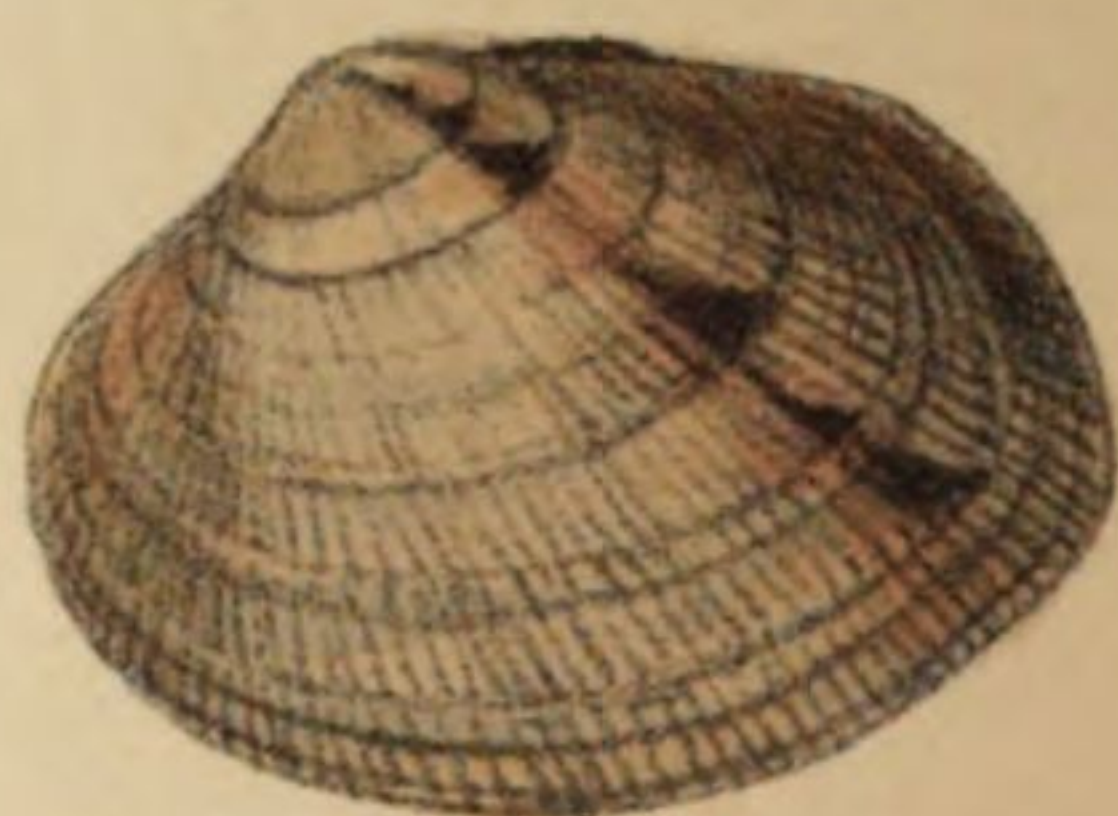
A remarkably sculptured species possessing the general character of this section of the genus, but yet wanting the decussation.



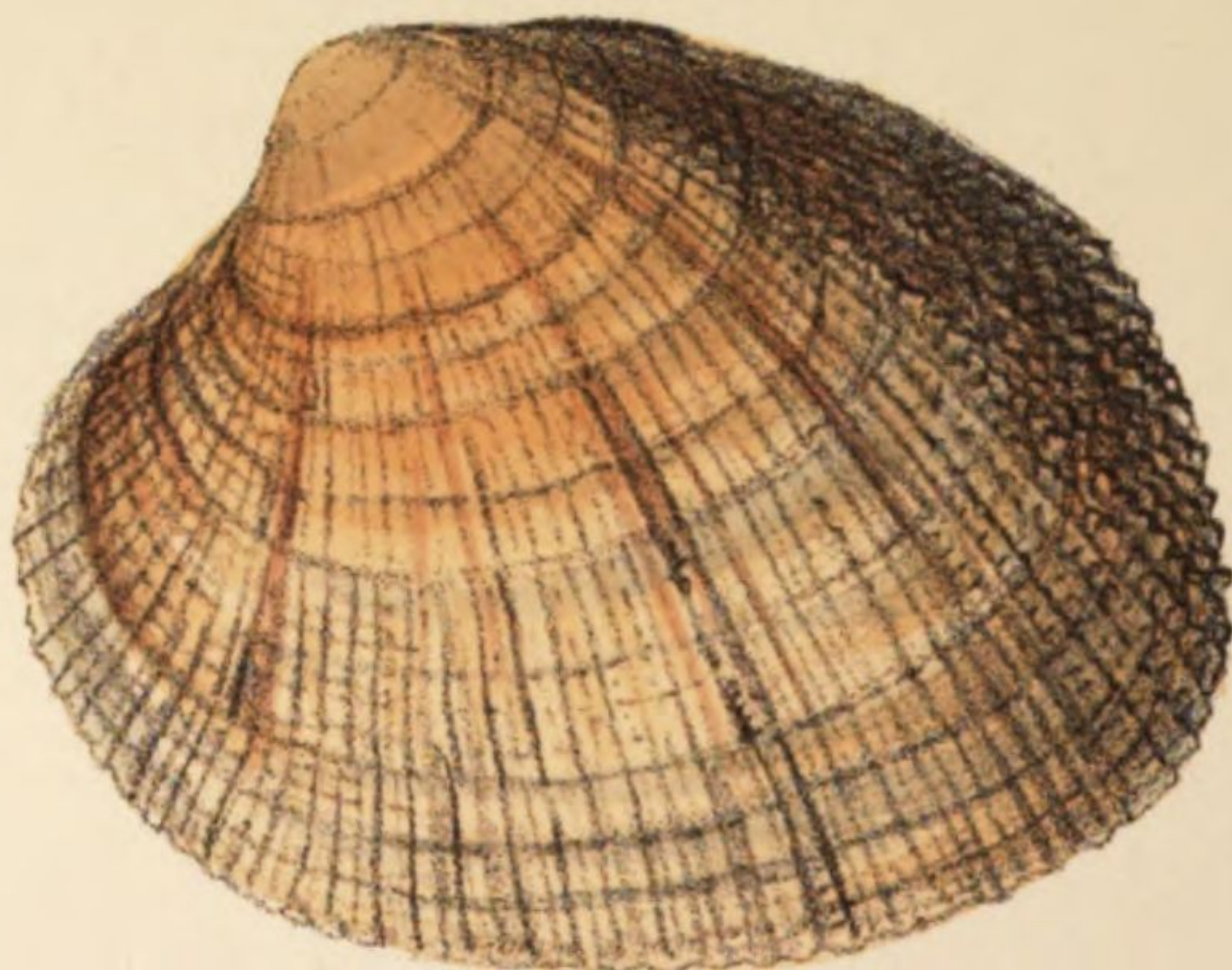
60.



61.



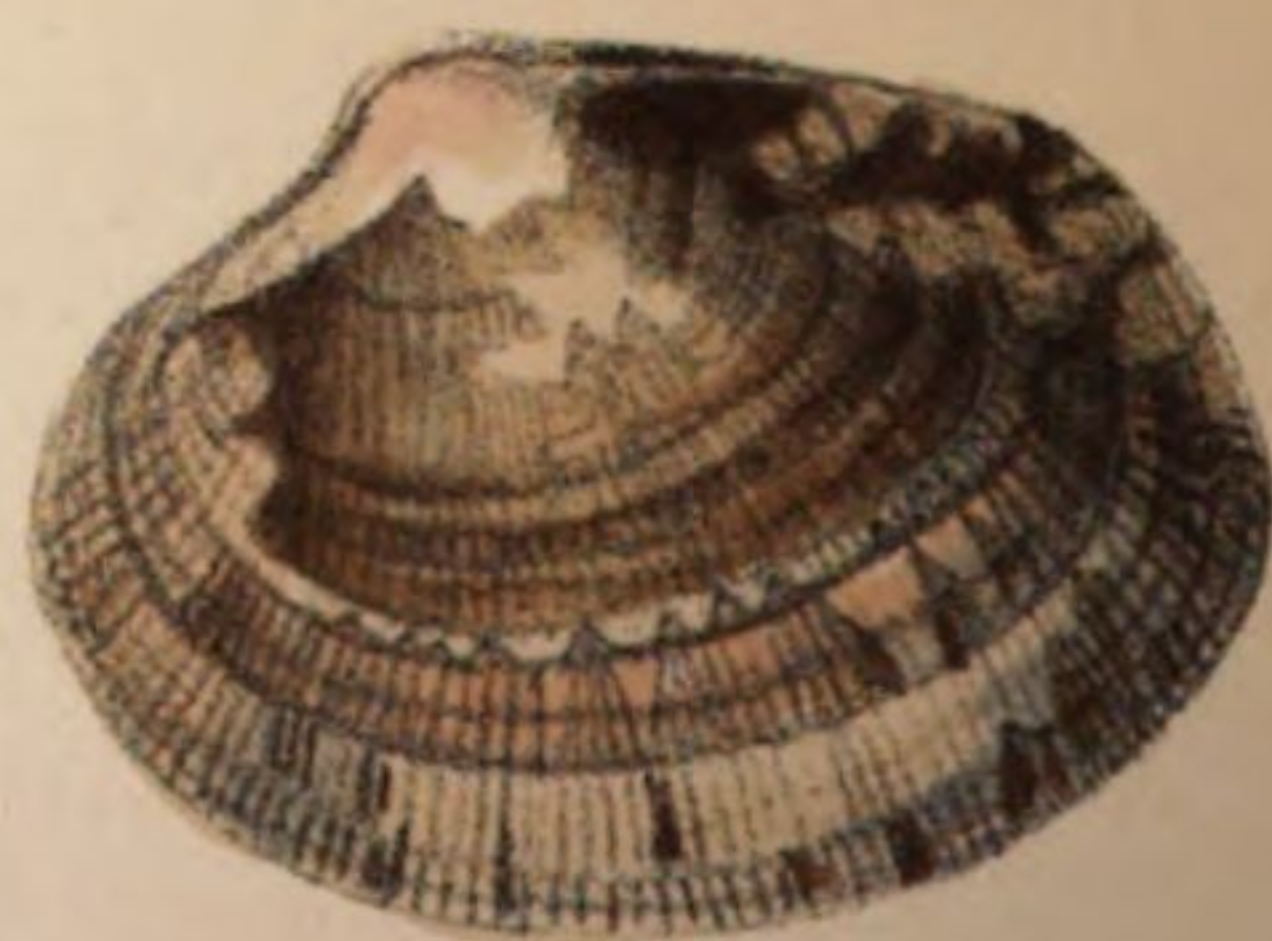
62.



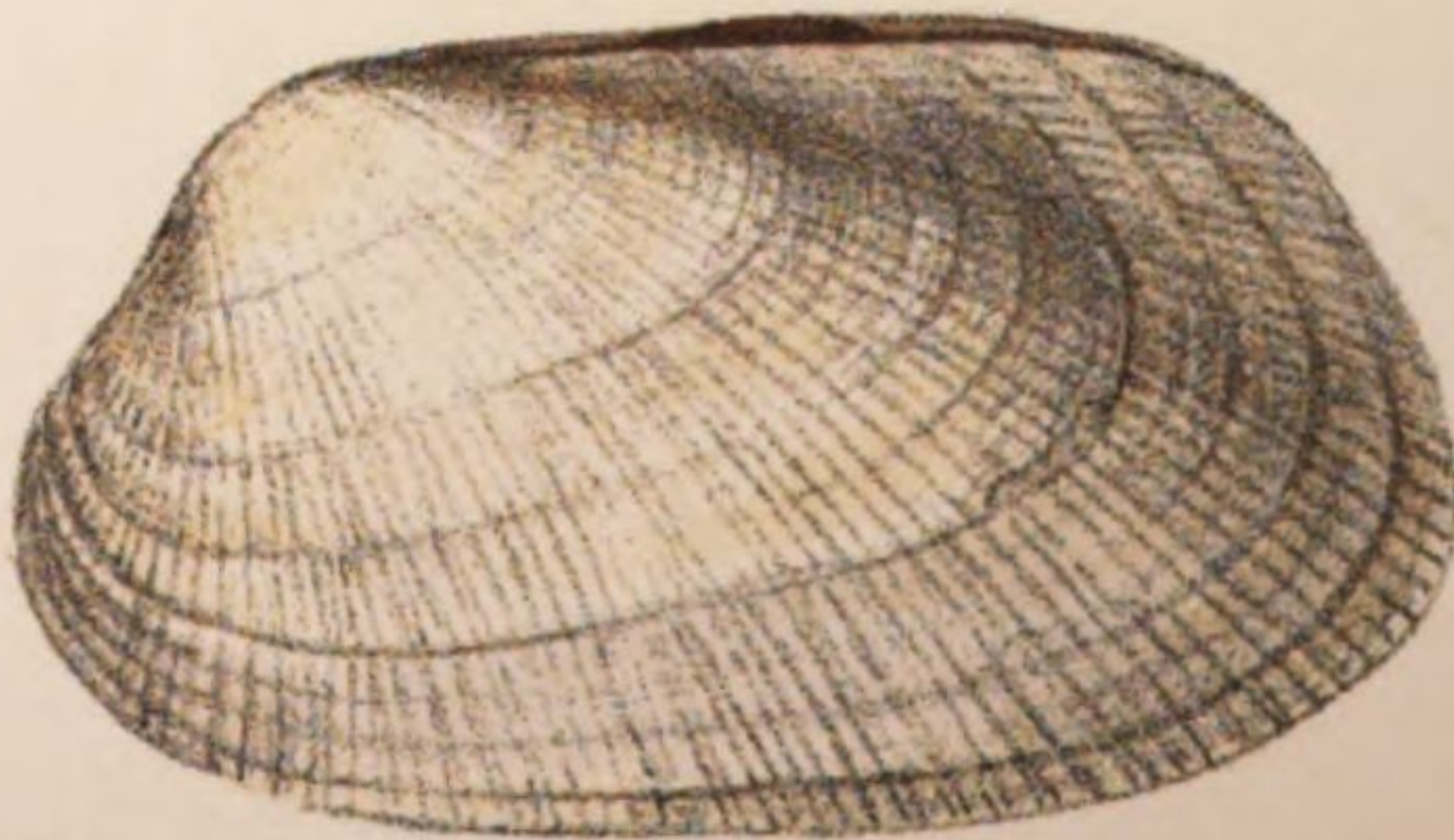
63.



64a.



64b.



65.

TAPES.

PLATE XII.

Species 60. (Mus. Cuming.)

TAPES PHILIPPINARUM. *Tap. testā oblongo-ovatā, gibbā, valde inæquilaterali, anticè abbreviatā, truncatā, fulvā, fusco variegatā et obscurè radiatā, radiatim liratā, liris posticè angulatis, ad latera crispato-decussatis.*

THE PHILIPPINE TAPES. Shell oblong-ovate, gibbous, very inequilateral, anteriorly very short, truncated, fulvous, variegated and obscurely rayed with brown, radiately ridged, ridges posteriorly angled, crisply decussated at the sides.

Venus Philippinarum, Adams and Reeve, Moll. Voy. Samarang, p. 79. pl. 22. f. 10.

Tapes Philippinarum, Sowerby.

Hab. Philippine Islands; Belcher.

Remarkable for its very short truncated growth on the anterior side.

Species 61. (Mus. Cuming.)

TAPES PUNICEA. *Tap. testā ovatā, convexiusculā, latere antico brevi, obtuso, deinde attenuato, postico latiore, fulvā, fusco irregulariter punctatā, obscurè radiatā, maculis parvis albis irregulariter aspersā, intus purpureo-roseā, circa umbones violaceā, undique densè lævigato-decussatā, liris posticis majoribus, distantioribus.*

THE SCARLET TAPES. Shell ovate, slightly convex, anterior side short, obtuse, then attenuated, posterior broader, fulvous, irregularly dotted with brown, obscurely rayed, irregularly sprinkled with small white spots, purple-rose within, violet about the umboes, densely smoothly decussated throughout, the posterior ridges being larger and more distant.

DESHAYES, Pro. Zool. Soc. 1853, p. 10.

Tapes variegata, Sowerby.

Hab. Philippine Islands; Cuming.

I give M. Deshayes' *T. punicea*, but it is much to be doubted whether the peculiarly broadly ovate form here noted is sufficient to distinguish it, as a species, from *T. variegata*, with which it agrees in other respects.

Species 62. (Mus. Cuming.)

TAPES CINEREA. *Tap. testā subangustè ovatā, posticè obliquè truncatā, cinereo-albā, maculis purpureo-griseis*

sparsim posticè radiatā, undique densè decussatā, liris lateralibus subasperis.

THE ASH-COLOURED TAPES. Shell rather narrowly ovate, posteriorly obliquely truncated, ash-white, sparingly rayed on the posterior side with purple-grey blotches, densely decussated throughout, lateral ridges rather rough.

DESHAYES, Pro. Zool. Soc. 1853, p. 11.

Hab. — ?

The radiated painting on the posterior side of this shell assumes the importance of a specific character.

Species 63. (Mus. Cuming.)

TAPES DENTICULATA. *Tap. testā ovato-rhomboideā, crassiusculā, sordidè fulvā, purpureo-griseo obscurè radiatā et punctatā, undique irregulariter rugoso-decussatā, liris lateralibus distantioribus, serrato-nodulatis.*

THE TOOTHED TAPES. Shell ovately rhomboid, rather thick, dull fulvous, obscurely rayed and dotted with purple-grey, irregularly rugosely decussated throughout, lateral ridges more distant, serrately noded.

SOWERBY, Thes. Conch. vol. i. p. 694. pl. 150. f. 114.

Hab. — ?

Distinguished by a rough irregular kind of decussation, which at the sides is serrately noded.

Species 64. (Fig. a, b, Mus. Cuming.)

TAPES VARIEGATA. *Tap. testā oblongo-ovatā, posticè obliquè truncatā, fulvescente-lacteā, griseo et ferrugineo-fusco variegatā, undique densè decussatā, liris posticè angulatis, ad latera tenuè serrato-nodulatis.*

THE VARIEGATED TAPES. Shell oblong-ovate, posteriorly obliquely truncated, fulvous cream-colour, variegated with grey and rust-brown, closely decussated throughout, ridges posteriorly angled, finely serrately noded at the sides.

SOWERBY, Thes. Conch. vol. i. p. 696. pl. 151. f. 133 to 138.

Hab. Philippine Islands; Cuming.

Variously painted, but often leaving the cream-coloured

TAPES.—PLATE XII.

ground with the appearance of a sprinkling of small spots.
The interior is generally tinged with rose.

Species 65. (Mus. Cuming.)

TAPES GALACTITES. *Tap. testā subelongato-oblongā, anticè obtusè angulatā, candidā, undique lævigato-decussatā, lateribus ambobus rotundatis.*

THE MILKY TAPES. Shell rather elongately oblong, anteriorly obtusely angled, white, smoothly decussated throughout, both sides rounded.

Venus galactites, Lamarck, Anim. sans vert. vol. vi. p. 359.

Tapes galactites, Sowerby.

Hab. New Holland; New Zealand.

A solid oblong white species, with very much of the general aspect of a *Cypricardia*.



66.



68.



67.



69.



71.



70.



72.



73.



74.



75.

TAPES.

PLATE XIII.

Species 66. (Mus. Cuming.)

TAPES FABAGELLA. *Tap. testá oblongo-ovatá, compressiusculá, valde inæquilaterali, anticè brevi, subattenuatá, trapezoideo-productá, truncatá, candidá, concentricè exilissimè striatá, striis hic illic confluentibus, ad aream posticam corrugato-plicatis.*

THE LITTLE BEAN TAPES. Shell oblong-ovate, rather compressed, very inequilateral, anteriorly short, somewhat attenuated, posteriorly trapezoidly produced, truncated, white, concentrically very finely striated, striæ here and there confluent, wrinkle-plaited on the posterior area.

DESHAYES, Pro. Zool. Soc. 1853, p. 10.

Hab. New Zealand.

Of a peculiar trapezoidal form, colourless, but exquisitely sculptured.

Species 67. (Mus. Cuming.)

TAPES SEMIDECUSSATA. *Tap. testá subquadrato-ovatá, valde inæquilaterali, posticè latè truncatá, fulvescente-lacteá, maculis magnis irregularibus rufis posticè maculatá, medio radiatim plano-liratá, ad latera nodoso-decussatá.*

THE HALF-DECUSSATED TAPES. Shell somewhat squarely ovate, very inequilateral, posteriorly broadly truncated, fulvous cream-colour, marbled on the posterior side with large irregular red blotches, radiately flatly ridged in the middle, nodosely decussated at the sides.

Tapes semidecussata, Deshayes, MS. in Mus. Cuming.

Tapes Japonica, Deshayes (not *Venus Japonica*, Gmelin,

Chione Japonica, Deshayes, *Tapes Japonica*, nobis),

Pro. Zool. Soc. 1853, p. 10.

Hab. Japan; Dr. Siebold.

This runs very closely into some varieties of that very variable species, *T. variegata*.

Species 68. (Mus. Cuming.)

TAPES VIOLASCENS. *Tap. testá suboblongo-ovatá, anticè brevissimá, posticè declivi-rotundatá, albidá, violaceo-griseo aut fulvescente radiatá, circa umbones purpureá, undique decussatim lirátá, interstitiis longitudinalibus subprofundè incisis.*

THE VIOLET TAPES. Shell somewhat oblong-ovate, anteriorly very short, posteriorly slopingly rounded, whitish, rayed with violet-grey or light-brown, purple about the umboes, decussately ridged throughout, longitudinal interstices rather deeply engraved.

DESHAYES, Pro. Zool. Soc. 1853, p. 10.

Hab. —?

A very characteristic species, especially in respect of form and colouring.

Species 69. (Mus. Cuming.)

TAPES DACTYLOIDES. *Tap. testá oblongá, gibbosiusculá, valde inæquilaterali, rufescente-ferrugineá, intus posticè violaceá, concentricè irregulariter plicato-corrugatá, rugis ad latus posticum crispato-serratis.*

THE FINGER-LIKE TAPES. Shell oblong, rather gibbous, very inequilateral, reddish rust-colour, posteriorly violet within, concentrically irregularly plicately wrinkled, wrinkles on the posterior side, crisply serrated.

SOWERBY, Thes. Conch. vol. i. p. 691. pl. 150. f. 129.

Hab. Senegambia.

The four species figured in the centre of this plate (Sp. 66, 69, 72, 75) are of a distinct, peculiarly finely wrinkled type.

Species 70. (Mus. Cuming.)

TAPES TEXTURATA. *Tap. testá subtrigono-ovatá, fulvá, rufo lineari-reticulatá, concentricè lirátá, liris obtusis, lævibus, ad latera confertis, undulatis.*

THE WOVEN TAPES. Shell somewhat triangularly ovate, fulvous, linearly reticulated with red, concentrically ridged, ridges obtuse, smooth, crowded and a little waved at the sides.

Venus texturata, Lamarck, Anim. sans vert. vol. vi. p. 355.

Tapes texturata, Sowerby.

Hab. Mediterranean.

Closely concentrically sculptured with smooth obtuse ridges, which at the sides, especially the posterior side, are crowded and a little waved.

Species 71. (Mus. Cuming.)

TAPES GEOGRAPHICA. *Tap. testā oblongā, compressā, posticè rhomboideā, truncatā, fulvescente-lacteā, castaneo apertè lineari-reticulatā, undique subtilissimè decussatā, ad aream posticam rugosā.*

THE GEOGRAPHIC TAPES. Shell oblong, compressed, posteriorly rhomboid, truncated, fulvous cream-colour, openly linearly reticulated with chestnut, very finely decussated throughout, rough on the posterior area.

Venus geographica, Chemnitz, Conch. Cab. vol. vii. p. 45. pl. 42. f. 440.

Venus literata, Poli (not of Linnæus).

Tapes geographica, Sowerby.

Hab. Mediterranean.

A pretty delicately-sculptured species, distinguished by the open character of its reticulated painting.

Species 72. (Mus. Cuming.)

TAPES CORRUGATA. *Tap. testā oblongo-ovatā, ad latera rotundatā, crassā, calcareo-albā, intus posticè violaceā, concentricè rudè corrugatā, rugis posticè irregulariter plicatis.*

THE WRINKLED TAPES. Shell oblong-ovate, rounded at the sides, thick, chalk-white, posteriorly violet within, concentrically rudely wrinkled, wrinkles posteriorly irregularly plaited.

Venus corrugata, Deshayes, Anim. sans vert. vol. vi. p. 351.

Tapes corrugata, Deshayes.

Hab. — ?

A solid opaque chalk-white shell, more or less roughly concentrically wrinkled.

Species 73. (Mus. Cuming.)

TAPES BRUGUIERI. *Tap. testā suboblongo-ovatā, tenui, albā, rufescente-fulvo latiradiatā, obscurè punctatā, radiatim plano-liratā, liris lateralibus decussatim cre-natis.*

BRUGUIÈRE'S TAPES. Shell rather oblong-ovate, thin, white, broadly rayed with reddish-fulvous, obscurely

dotted, radiately flatly ridged, lateral ridges decussately crenated.

Venus Brugueri, Hanley, Pro. Zool. Soc. 1845, p. 21.

Tapes Brugueri, Sowerby.

Hab. Ceylon.

A very delicate neatly-sculptured species.

Species 74. (Mus. Cuming.)

TAPES FLORIDA. *Tap. testā subtrigono-ovatā, ventricosā, fulvo-spadiceā, fusciscente obscurè lineari-reticulatā, præsertim ad latus posticum, umbonibus rosaceis, concentricè tenuè lirato-striatā, striis hic illic confluentibus.*

THE FLORID TAPES. Shell somewhat triangularly ovate, ventricose, fulvous-drab, obscurely linearly reticulated with brown, especially on the posterior side, umboes tinged with rose, concentrically finely ridge-striated, striæ here and there confluent.

Venus florida, Lamarck, Anim. sans vert. vol. vi. p. 364.

Venus læta, Poli (not of Linnæus).

Venus virginea, var., Philippi.

Tapes florida, Sowerby.

Hab. Mediterranean.

A comparatively smooth shell, faintly coloured, but tinged with flesh-rose about the umboes.

Species 75. (Mus. Cuming.)

TAPES CUMINGII. *Tap. testā subelongatā, compressiusculā, posticè declivi-attenuatā, calcareo-albā, violaceo interruptè radiatā, undique minutè divaricato-corrugatā.*

CUMING'S TAPES. Shell rather elongated, rather compressed, posteriorly slopingly attenuated, chalk-white, interruptedly rayed with violet, everywhere minutely divaricately wrinkled.

SOWERBY, Thes. Conch. vol. i. p. 690. pl. 150. f. 128.

Hab. Philippine Islands; Cuming.

An extremely pretty species, minutely divaricately wrinkled and delicately rayed with violet.

MONOGRAPH

OF THE GENUS

M E R O Ë.

“Various as beauteous, Nature, is thy face;
All that grows has grace; all are appropriate.”—*Crabbe*.



1a.



1b.



1c.



2a.



1d.



1e.



2b.

MEROË.

PLATE I.

Genus MEROË, Schumacher.

Testa plerumque trigono-ovata, interdum depressè cordato-orbicularis, sæpissimè compressa, interdum tumida, nunc lævigata, nunc concentricè lirata et sulcata, marginibus tenuè denticulatis, latere antico plerumque longiore. Area ligamenti peculiariter profundè excavata. Cardo bi-tridentatus, dente subamplo antico. Impressio pallii posticè sinuata.

Shell generally triangularly ovate, sometimes depressly cordately orbicular, mostly compressed, sometimes tumid, smooth or concentrically ridged and grooved, margins finely denticulated, anterior side generally the longer. Ligamentary area peculiarly deeply excavated. Hinge two- or three-toothed, with a rather large anterior tooth. Impression of the mantle sinuated posteriorly.

This genus, less popularly known by the generic names *Cuneus* and *Sunetta*, is founded on the Linnæan *Venus Meroë*, a highly characteristic form, differing from all other genera of *Veneridæ* in the anterior side of the shell being mostly the longer, and in the ligamentary area being sunk into a deeply excavated pit. About a dozen species are known; two inhabiting Japan, three Australia, and seven the intermediate ocean from the Philippine Islands to China and Bombay. The Japanese and Australian species belong, curiously enough, to the same peculiar type,—depressly cordately orbicular and smooth, with painting of richly mottled violet; whilst the Indian Ocean species are of a quite distinct type,—triangularly ovate, the anterior side being attenuately produced, mostly concentrically ridged and linearly grooved, with the painting almost invariably represented by a zigzag textile of livid-purple. All are partially covered by a thin transparent horny epidermis, and all have finely denticulated margins, with the deeply excavated ligamentary pit.

Species 1. (Fig. a to e, Mus. Cuming.)

MEROË SEMINUDA. *Mer. testâ ovato-trigonâ, compressâ, subæquilaterali, utrinque rotundatâ, latere antico declivi-rotundato, carneo-lacteâ, livido-purpureo reticulato-maculatâ, in medio et posticè concentricè sulcatâ, anticè lævigatâ.*

THE SEMINUDE MEROË. Shell ovately triangular, compressed, nearly equilateral, rounded on both sides, anterior side slopingly attenuated, flesh-tinted cream-colour, reticulately blotched with livid-purple, in the middle, and posteriorly, concentrically grooved, anteriorly smooth.

Cytherea seminuda, Philippi, Abbild. und Besch. Conch. p. 97. pl. 3. f. 4.

Donax seminuda, Anton.

Venus seminuda, Anton.

Meroë seminuda, Sowerby.

Cuneus seminudus, Deshayes.

Hab. Molucca Islands.

The chief peculiarity of this very delicately painted species consists in the concentric grooves suddenly ceasing on reaching the anterior side of the shell, which is consequently smooth.

Species 2. (Fig. a, b, Mus. Cuming.)

MEROË MAGNIFICA. *Mer. testâ orbiculari, lentiformi, compressâ, crassâ, anticè abbreviatâ, lævigatâ, violascente-cinereâ, pallidè fusco aut violaceo acutè lineari-reticulatâ, intensè purpureo-violaceo plus minus concentricè fasciatâ et interruptè radiatâ, epidermide tenui corneâ versus marginem indutâ.*

THE FINE MEROË. Shell orbicular, lens-shaped, compressed, thick, rather shortened anteriorly, smooth, violet-tinged ash, sharply linearly reticulated with pale-brown or violet, more or less concentrically banded and interruptedly rayed with deep purple-violet, covered towards the margin with a thin horny epidermis.

Hab. Japan.

This fine species, pre-eminent in size and brilliancy of colouring, might be regarded as a colossal form of *M. excavata*, from the same locality, but no specimens intermediate in size and general form are at present known to connect them. It remains to be seen whether the compressly attenuated character of the anterior portion of the shell of the latter species is indicative of an early stage of growth.



3a.



3b.



3c.



4



5a.



5c.



5b.



6a.



6c.



6b.

MEROË.

PLATE II.

Species 3. (Fig. *a, b, c*, Mus. Cuming.)

MEROË TRUNCATA. *Mer. testâ trigono-ovatâ, compressâ, anticè subattenuato-productâ, fulvescente-albâ, livido-purpureo concentricè acutè lineari-undatâ, lævigatâ, sub lente exiliter decussatim striatâ.*

THE TRUNCATED MEROË. Shell triangularly ovate, compressed, anteriorly somewhat attenuately produced, fulvous-white, concentrically sharply linearly waved with livid-purple, smooth, beneath the lens finely decussately striated.

Cuneus truncatus, Deshayes, Pro. Zool. Soc. 1853, p. 1.
Hab. Philippine Islands; Cuming.

Though apparently smooth, this species, like *M. scripta*, which it very closely resembles, will be found, on examination with the lens, to be minutely decussately striated.

Species 4. (Mus. Cuming.)

MEROË EFFOSSA. *Mer. testâ trigono-ovatâ, subangustâ, subæquilaterali, albidâ, livido-purpureo profusè reticulato-maculatâ, undique creberrimè concentricè costellatâ, interstitiis conspicuè excavatis, areâ ligamenti profundè effossâ.*

THE PITTED MEROË. Shell triangularly ovate, rather narrow, nearly equilateral, whitish, profusely reticulately blotched with livid-purple, very closely concentrically ribbed throughout, the interstices being conspicuously excavated, ligamentary area deeply pitted.

Cytherea effossa, Hanley, Pro. Zool. Soc. 1842, p. 123.

Meroë effossa, Sowerby.

Cuneus effossus, Deshayes.

Hab. Philippine Islands; Cuming.

Conspicuously distinguished from *M. picta*, which it resembles in painting, by its narrower and more equilateral form, deeply-cut ribs, and correspondingly deeply-cut ligamentary area.

Species 5. (Fig. *a, b, c*, Mus. Cuming.)

MEROË PICTA. *Mer. testâ trigono-ovatâ, compressâ, latere antico elongato-producto, postico declivi-truncato,*

albidâ, livido-purpureo reticulato-maculatâ, interdum omnino purpureâ, concentricè plano-liratâ, interstitiis lineari-sulcatis.

THE PAINTED MEROË. Shell triangularly ovate, compressed, anterior side elongately produced, posterior slopingly truncated, whitish, reticulately blotched with livid-purple, sometimes altogether purple, concentrically flatly ridged, interstices linearly grooved.

Venus Meroë, Linnæus, Syst. Nat. p. 1132.

Cuneus costatus, Megerle.

Donax Meroë, Lamarck.

Cytherea Meroë, Sowerby.

Meroë picta, Schumacher.

Cuneus Meroë, Deshayes.

Hab. Indian Ocean.

In this species, which is the original type of the group, the anterior side is much produced, whilst the posterior is more than usually slopingly truncated. The painting is exceedingly variable.

Species 6. (Fig. *a, b, c*, Mus. Cuming.)

MEROË SCRIPTA. *Mer. testâ trigono-ovatâ, anticè attenuato-productâ, posticè declivi-truncatâ, carneo-albâ, livido-purpureo lineari-undatâ vel reticulato-maculatâ, interdum omnino purpureâ, lævigatâ, sub lente minutè decussatim striatâ.*

THE WRITTEN MEROË. Shell triangularly ovate, anteriorly attenuately produced, posteriorly slopingly truncated, flesh-white, linearly waved or reticulately blotched with livid-purple, sometimes altogether purple, smooth, beneath the lens minutely decussately striated.

Cuneus scriptus, Rumphius, Mus. Amb. pl. 43. f. 1, m.

Donax scripta, Linnæus.

Meroë scripta, Gray.

Hab. Indian Ocean.

An apparently smooth species, which on examination with the lens will be found to be minutely decussately striated.

March, 1864.



7.



8.



9.



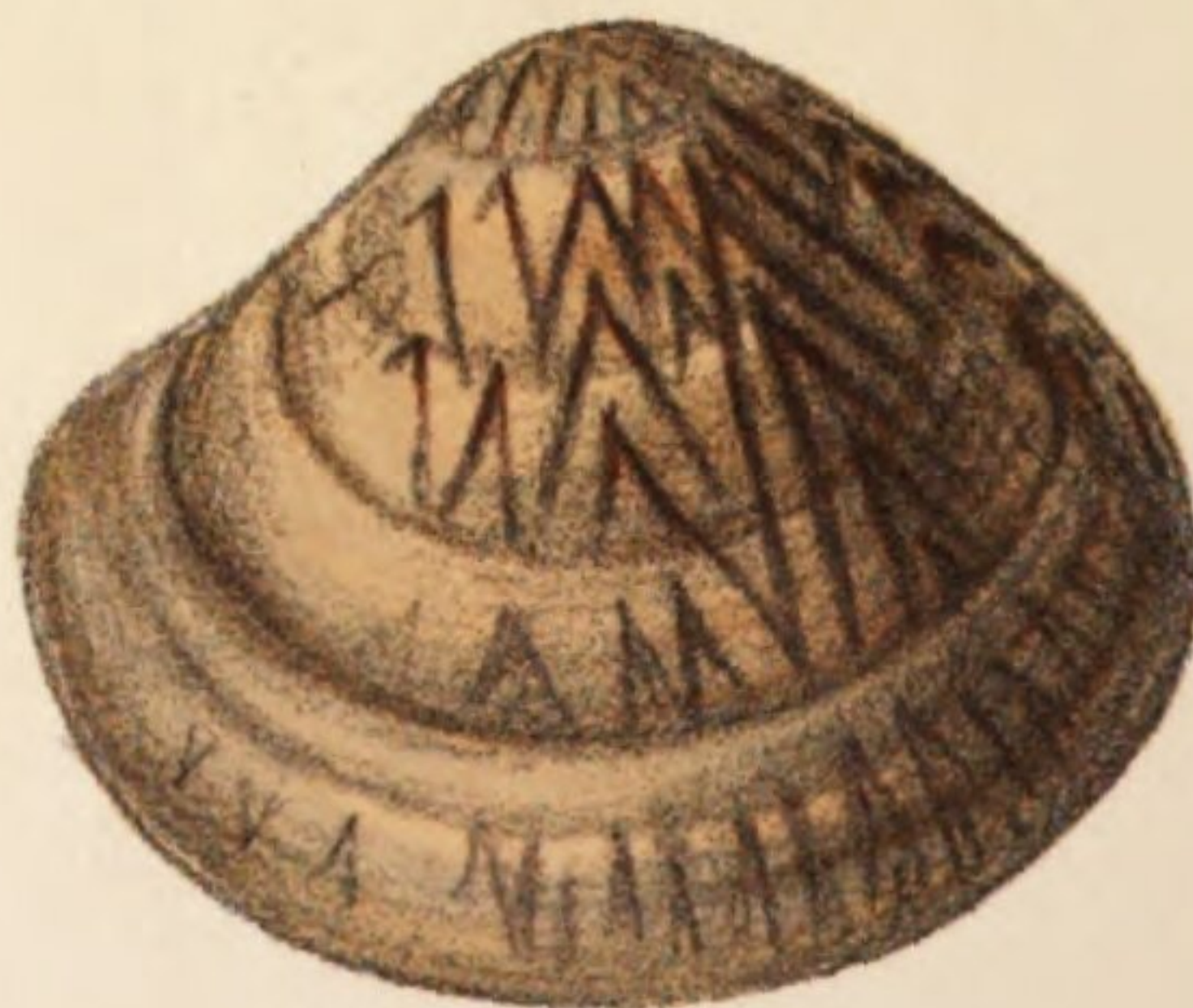
10a.



11a.



11b.



10b.



12a.



12b.



12c.

MEROË.

PLATE III.

Species 7. (Mus. Cuming.)

MEROË VAGINALIS. *Mer. testâ ovatâ, parum trigonâ, anticè subabbreviato-attenuatâ, lævigatâ, flavescente-albâ, purpureo-violaceo radiatim marmoratâ et nebulatâ.*

THE SHEATHED MEROË. Shell ovate, but little triangular, anteriorly rather shortly attenuated, smooth, yellowish-white, radiately mottled and clouded with purple-violet.

Cytherea vaginalis, Menke, Moll. Nov. Holl. p. 42.

Cuneus vaginalis, Deshayes.

Hab. West coast of New Holland.

Unlike the typical species of the Indian Ocean, the anterior side of the Australian and Japanese species of *Meroë* is the shorter.

Species 8. (Mus. Cuming.)

MEROË ALICIÆ. *Mer. testâ cordato-orbiculari, depressiusculâ, lævigatâ, flavescente-albâ, purpureo-roseo reticulato-lentiginosâ et obscurè radiatâ.*

ALICE'S MEROË. Shell cordately orbicular, rather depressed, smooth, yellowish-white, reticulately freckled and obscurely rayed with purple-rose.

Sunetta Aliciæ, Adams and Angas, Pro. Zool. Soc. 1863.

Hab. Port Elliott, South Australia; Angas.

This species, dredged at Port Elliott, South Australia, by Mr. Angas, comes very near to the preceding; it is, however, rounder and more gibbous.

Species 9. (Mus. Cuming.)

MEROË MENSTRUALIS. *Mer. testâ orbiculari-ovatâ, medio-gibbosiusculâ, latere antico brevi, albidâ, livido-purpureo lineari-undatâ, lævigatâ, sub lente obscurè radiatim striatâ.*

THE MENSTRUAL MEROË. Shell orbicularly ovate, rather gibbous in the middle, anterior side short, whitish, linearly waved with livid-purple, smooth, obscurely radiately striated beneath the lens.

Cytherea menstrualis, Menke, Moll. Nov. Holl. p. 43.

Cuneus menstrualis, Deshayes.

Hab. New Holland?

This appears to be an important species, intermediate in character between the smooth Australian form, *M. vaginalis*, and *M. truncatus* of the Philippine Islands.

Species 10. (Fig. a, b, Mus. Cuming.)

MEROË SOLANDRI. *Mer. testâ subtrigono-ovatâ, tumidâ, subæquilaterali, lacteâ, livido-purpureo undulatim maculatâ aut lineatâ, epidermide tenui corneâ indutâ, lævigatâ.*

SOLANDER'S MEROË. Shell somewhat triangularly ovate, swollen, nearly equilateral, cream-colour, undulately blotched or lineated with livid-purple, covered with a thin horny epidermis, smooth.

Cytherea Solandri, Gray, Wood, Ind. Test. Suppl. pl. 2. f. 11.

Meroë Solandri, Gray.

Cuneus Solandri, Deshayes.

Hab. China.

Of a swollen gibbous form, nearly equilateral, but somewhat variable.

Species 11. (Fig. a, b, Mus. Cuming.)

MEROË EXCAVATA. *Meroë testâ orbiculari-ovatâ, anticè compressâ, cordato-attenuatâ, posticè latè rotundatâ, albidâ, fulvo-violaceo plus minus tinctâ, purpureo interruptè fasciatâ, lævigatâ, epidermide tenui corneâ partim indutâ.*

THE EXCAVATED MEROË. Shell orbicularly ovate, anteriorly compressed and cordately attenuated, posteriorly broadly rounded, whitish, more or less stained with fulvous-violet, interruptedly banded with purple, smooth, partially covered with a thin horny epidermis.

Cytherea excavata, Hanley, Pro. Zool. Soc. 1842, p. 123.

Meroë excavata, Sowerby.

Cuneus excavatus, Deshayes.

Hab. Japan.

The painting of this species is similar to that of the large species from the same locality, which I have named *M. magnifica*. It differs in form in having the posterior side broadly rounded and the anterior compressly attenuated.

MEROË.—PLATE III.

Species 12. (Fig. a, b, c, Mus. Cuming.)

MEROË HIANS. *Mer. testâ subangustè ovatâ, conspicuè tumidâ, subæquilaterali, latere antico longiore, albidâ, livido-purpureo plus minus tinctâ aut angulato-flammâ, lævigatâ, epidermide tenui corneâ partim indutâ.*

THE GAPING MEROË. Shell rather narrowly ovate, conspicuously tumid, nearly equilateral, anterior side the longer, whitish, more or less stained or angularly

flamed with livid-purple, smooth, partially covered with a thin horny epidermis.

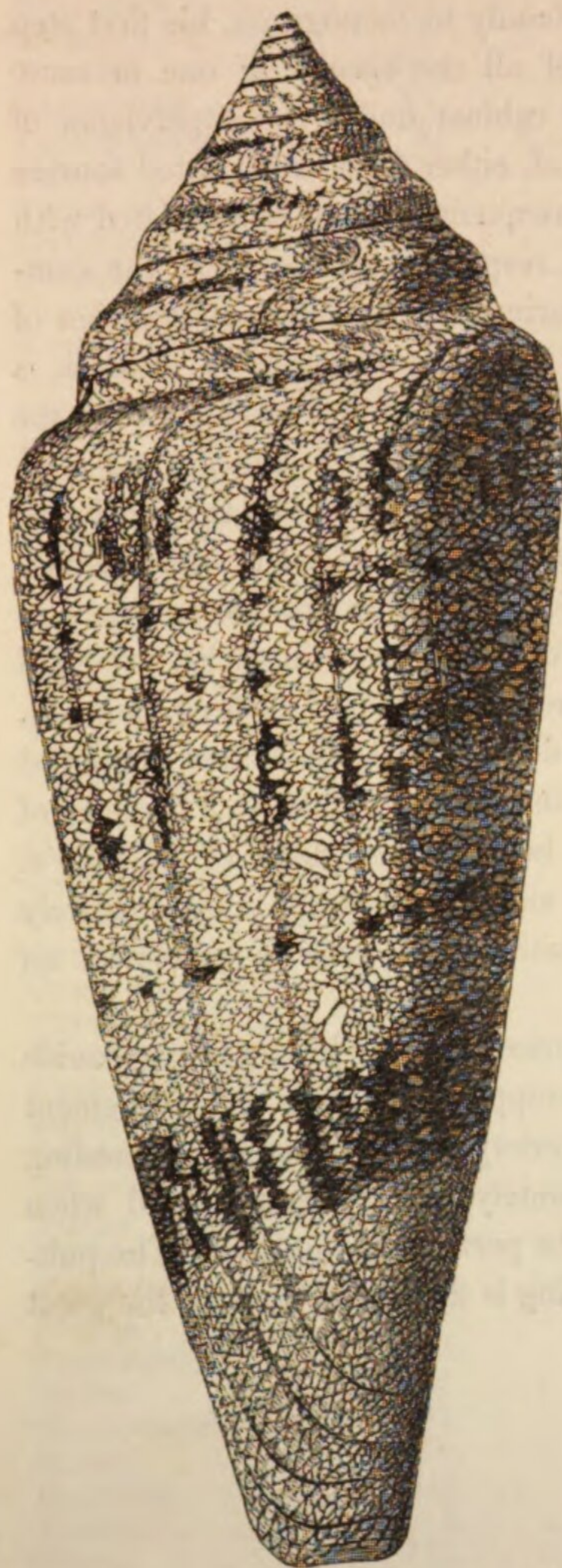
Hab. Bombay.

The three specimens here figured occur, together with a few others, in Mr. Cuming's cabinet, with the name *M. hians* in manuscript. They run very closely into the China *M. Solandri*, but are all of the same peculiarly tumid narrowly ovate form.

Illustrated Works on Conchology,

By LOVELL REEVE, F.L.S., F.G.S.,

Corresponding Member of the Lyceum of Natural History of New York, of the Academy of Natural Sciences of Philadelphia, of the Natural History Society of Würtemberg, and of the Zoologico-Botanical Society of Vienna.



Conus gloria-maris.

(From the Specimen in the British Museum.)

CONCHOLOGIA ICONICA, or Figures and Descriptions of the Shells of Mollusks; with Remarks on their Affinities, Synonymy, and Geographical Distribution.

There can be little doubt that the scientific zoologist is deeply indebted for his knowledge of the species of Mollusca to those who collect Shells simply for the sake of their beautiful forms and colours. Owing to the perishable nature of their soft parts, comparatively few Mollusks are procured alive, and these shrink when preserved in spirits; while the shell, of all organic substances the most durable, is a part of the animal full of character indicative of its structure, habit, and geographical range. Very erroneous ideas were entertained by conchologists as to the nature of the Mollusk when comparatively few shells had been discovered, and the species were but imperfectly known. At the present time there is scarcely a group of which the animal has not been minutely described. Hence a Collection of Shells, representing the multitudinous forms and varieties of molluscan life, possesses an interest of a philosophic kind which was formerly unknown.

There is contained in the British Museum, and in the museum of a British naturalist, Mr. Hugh Cuming, a collection of shells quite unrivalled in number of species, variety, and perfection. If all the collections of Europe and America, public and private, were united in one, the series would still be inferior in completeness to the combined collections of the British Museum and Mr. Cuming. But the latter is the collection *par excellence*. Mr. Cuming possesses from twenty to thirty thousand species and well-marked varieties, illustrated in most instances by several specimens, acquired during not less than half a century of untiring personal research. "Not restricting," said Professor Owen several years ago, in the 'Annals of Natural History,' "his pursuit to the stores and shops of curiosity-mongers of our seaports, or depending on casual opportunities of obtaining rarities by purchase and exchange, he has devoted more than thirty years of his life in arduous and hazardous personal exertions, dredging, diving, wading, wandering, under the equator and through the temperate zones, both north and south, in the Atlantic, in the Pacific, in the Indian Ocean, and among the islands of its rich archipelago, in the labour of collecting from their native seas, shores, lakes, rivers, and forests, the marine, fluviatile, and terrestrial mollusks, sixty thousand of whose shelly skeletons, external and internal, are accumulated in orderly series in the cabinets with which the floors

of his house now groan." Since this was written Mr. Cuming has added largely to his collection, and still labours unremittingly, purchasing and interchanging specimens with collectors in other parts of the world.

The 'CONCHOLOGIA ICONICA' was commenced in 1843, as the exponent of this and other English collections of Shells; and its publication has proceeded with uninterrupted regularity for twenty years. Part 236, now published, completes the Fourteenth Volume. The number of Plates contained in these volumes is 1890, comprising not fewer, probably, than 15,000 figures of shells of the natural size, all drawn and lithographed by the same

characteristic pencil, that of Mr. G. B. Sowerby. The system of nomenclature adopted is that of Lamarck, modified to meet the exigencies of recent discoveries. With the name of the species is given a summary of its leading specific characters in Latin and English. Then the authority for the name is quoted, accompanied by a reference to the work where the species was originally described; and next in order are its synonyms,—the names given to the species by other authors, different from that to which it is entitled by priority, or in consequence of the introduction of an improved system of genera. The habitat of the species is next given, accompanied, where possible, by particulars of the circumstances under which it is found, such as the nature of the soil, depth, vegetation, etc.; and to this are added some remarks, directing attention to the most obvious distinguishing peculiarities of the species, with occasional criticisms on the views of other writers. It is also noted, under each species, in what cabinet, mostly that of Mr. Cuming, the type specimen selected for illustration is preserved.

The author's method of proceeding is as follows:—Having determined upon a family to monograph, his first step is to select from the Cumingian collection a characteristic series of specimens of all the species of one or more genera, every specimen during the past twenty years having been taken from the cabinet under the supervision of Mr. Cuming himself, who furnishes whatever information he may be in possession of, either from transmitted sources or from individual personal research. This information, committed to paper, is subsequently sifted and collated with other information, and applied, as the working-out of a monograph proceeds, to the respective species. On the completion of a monograph the particulars of information are generalized, and their bearings on the different branches of the study are exhibited in the preliminary observations to each genus. For an elaborate example of what it is intended to convey, the reader is referred to the preliminary observations to genus *Terebratula*. For this reason the letter-press of Plate I. of each genus is not prepared until the monograph is completed, when it is issued along with the title-page and index. The Cumingian specimens having been selected, a search is then made among the specimens of the British Museum and other cabinets for further material, and the views of different authors as to their characters and affinities, are examined and compared. The specimens determined upon for illustration are now grouped in Plates for the artist; and the stones, when drawn on and printed from, are carefully put away in racks, arranged in alphabetical order according to the name of the genus. Many and curious are the details of etching, proving, printing, etc.; and the statistics of quantity acquire an interest as the work proceeds. The 1888 stones employed up to the present time weigh little short of seventeen tons; placed side by side, they would extend to a distance of more than half a mile; and if raised flat one upon another, they would reach to the height of the dome of St. Paul's. The number of impressions printed from these stones is approaching half a million; and the colouring is done entirely by hand, forming the livelihood of a family of colourists, who follow their occupation from year to year with an assiduity and interest worthy of a higher branch of art.

The mode of publication is to issue monthly a Part containing eight Plates, price 10s. (or bi-monthly a double Part of sixteen Plates, price 20s.), the Plates and letter-press being loose in the wrapper for facility of arrangement and reference. Two, sometimes three, genera are taken at a time, for the sake of variety, the publication proceeding with regularity until they are completed. When completed they are issued separately as monographs, and when enough monographs have accumulated to form a volume, a title-page is issued for the permanent binding. The publishers undertake the binding of the work, employing a special process, in which sewing is dispensed with, to the great advantage and preservation of the Plates.



CONCHOLOGIA ICONICA IN MONOGRAPHS.

Genera.	Vol.	Plates.	£.	s.	d.	Genera.	Vol.	Plates.	£.	s.	d.
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†AMPULLARIA	X.	28	1	15	6	MEROË	XIV.	3	0	4	0
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ANATINA	XIV.	4	0	5	6	MESODESMA	VIII.	4	0	5	6
†ANCULOTUS	XII.	6	0	8	0	META	XI.	1	0	1	6
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ARGONAUTA	XII.	4	0	5	6	MONOCEROS	III.	4	0	5	6
ARTEMIS	VI.	10	0	13	0	MUREX	III.	37	2	7	0
ASPERGILLUM	XII.	4	0	5	6	MYADORA	II.	1	0	1	6
AVICULA	X.	18	1	3	0	MYOCHAMA	XII.	1	0	1	6
BUCCINUM	III.	14	0	18	0	MYTILUS	X.	11	0	14	0
*BULIMUS	V.	89	5	12	0	NASSA	VIII.	29	1	17	0
BULLIA	III.	4	0	5	6	NATICA	IX.	30	1	18	0
CALYPTREA	XI.	8	0	10	6	NAUTILUS	XII.	6	0	8	0
CANCELLARIA	X.	18	1	3	0	†NAVICELLA & LATIA	IX.	8	0	10	6
CAPSA	X.	1	0	1	6	NERITA	IX.	19	1	4	0
CAPSELLA	X.	2	0	3	0	†NERITINA	IX.	37	2	7	0
CARDITA	I.	9	0	11	6	OLIVA	VI.	30	1	18	0
CARDIUM	II.	22	1	8	0	ONISCIA	V.	1	0	1	6
CASSIDARIA	V.	1	0	1	6	ORBICULA	XIII.	1	0	1	6
CASSIS	V.	12	0	15	6	†PALUDINA	XIV.	11	0	14	0
CHAMA	IV.	9	0	11	6	†PALUDOMUS	IV.	3	0	4	0
CHAMOSTREA	XIV.	1	0	1	6	*PARTULA	VI.	4	0	5	6
CHITON	IV.	33	2	2	0	PATELLA	VIII.	42	2	13	0
CHITONELLUS	IV.	1	0	1	6	PECTEN	VIII.	35	2	4	0
*CHONDROPOMA	XIV.	11	0	14	0	PECTUNCULUS	I.	9	0	11	6
CIRCE	XIV.	10	0	13	0	PEDUM	XI.	1	0	1	6
COLUMBELLA	XI.	37	2	7	0	PERNA	XI.	6	0	8	0
CONCHOLEPAS	XIV.	2	0	3	0	PHASIANELLA	XIII.	6	0	8	0
CONUS	I.	56	3	11	0	PHORUS	I.	3	0	4	0
CORBULA	II.	5	0	6	6	PINNA	XI.	34	2	3	0
CRANIA	XIII.	1	0	1	6	†PIRENA	XII.	2	0	3	0
CRASSATELLA	I.	3	0	4	0	PLACUNANOMIA	XI.	3	0	4	0
CRENATULA	XI.	2	0	3	0	PLEUROTOMA	I.	40	2	10	6
CREPIDULA	XI.	5	0	6	6	PSAMMOBIA	X.	8	0	10	6
CRUCIBULUM	XI.	7	0	9	0	PSAMMOTELLA	X.	1	0	1	6
*CYCLOPHORUS	XIII.	20	1	5	6	PTEROCERA	VI.	6	0	8	0
*CYCLOSTOMA	XIII.	23	1	9	0	*PTEROCYCLOS	XIV.	5	0	6	6
*CYCLOTUS	XIV.	9	0	11	6	PURPURA	III.	13	0	16	6
CYMBIUM	XIII.	26	1	13	0	PYRULA	IV.	9	0	11	6
CYPREA	III.	27	1	14	6	RANELLA	II.	8	0	10	6
CYPRICARDIA	I.	2	0	3	0	RICINULA	III.	6	0	8	0
CYTHEREA	XIV.	10	0	13	0	ROSTELLARIA	VI.	3	0	4	6
DELPHINULA	I.	5	0	6	6	SANGUINOLARIA	X.	1	0	1	6
DIONE	XIV.	12	0	15	6	*SCARABUS	XII.	3	0	4	0
DOLIUM	V.	8	0	10	6	SIMPULOPSIS	XIII.	2	0	3	0
DONAX	VIII.	9	0	11	6	SIPHONARIA	IX.	7	0	9	0
EBURNA	V.	1	0	1	6	SOLETELLINA	X.	4	0	5	6
FASCIOLARIA	IV.	7	0	9	0	SPONDYLUS	IX.	18	1	3	0
FICULA	IV.	1	0	1	6	STROMBUS	VI.	19	1	4	0
FISSURELLA	VI.	16	1	0	6	STRUTHIOLARIA	VI.	1	0	1	6
FUSUS	IV.	21	1	6	6	TAPES	XIV.	13	0	16	6
†GLAUCONOME	II.	1	0	1	6	TEREBRA	XII.	27	1	14	6
HALIA	XIV.	1	0	1	6	TEREBELLUM	XIV.	1	0	1	6
HALIOTIS	III.	17	1	1	6	TEREBRATULA & RYN- } XIII.	11	0	14	0	
HARPA	I.	4	0	5	6	CHONELLA	XII.	3	0	4	0
*HELIX	VII.	210	13	5	0	THRACIA	XII.	8	0	10	6
HEMIPecten	VI.	1	0	1	6	TRIDACNA	XIV.	1	0	1	6
†HEMISINUS	XII.	6	0	8	0	TRIGONIA	XII.	1	0	1	6
HINNITES	VIII.	1	0	1	6	TRITON	II.	20	1	5	6
HIPPOPUS	XIV.	1	0	1	6	TROCHITA	XI.	3	0	4	0
IANTHINA	XI.	5	0	6	6	TROCHUS	XIII.	16	1	0	6
†Io	XII.	3	0	4	0	TUGONIA	XIV.	1	0	1	6
ISOCARDIA	II.	1	0	1	6	TURBINELLA	IV.	13	0	16	6
*LEPTOPOMA	XIII.	8	0	10	6	TURBO	IV.	13	0	16	6
LINGULA	XIII.	2	0	3	0	TURRITELLA	V.	11	0	14	0
LITHODOMUS	X.	5	0	6	6	UMBRELLA	XI.	1	0	1	6
LITTORINA	X.	18	1	3	0	VENUS	XIV.	23	1	9	0
LUCINA	VI.	11	0	14	0	VOLUTA	VI.	22	1	8	0
LUTRARIA	VIII.	5	0	6	6	VITRINA	XIII.	10	0	13	0
MACTRA	VIII.	21	1	6	6	VULSELLA	XI.	2	0	3	0
MALLEUS	XI.	3	0	4	0	ZIZYPHINUS	XIV.	8	0	10	6

** The Genera marked * are Land Shells, those marked † are Freshwater, the remainder are Marine.

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(Half-calf, cloth sides, marbled edges.)

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From the Preface.

The Land and Freshwater Mollusks of the British Isles have been ably described by Turton, Gray, Forbes and Hanley, Jeffreys, and others, as a fauna *per se*; and great attention has been lavished on details of form and colour, of local habitation, and of parts of the anatomy. French conchologists, commencing at the opening of the present century with the terse and philosophic Draparnaud, and terminating with the accomplished Moquin-Tandon, have done even more for the natural history of our mollusks, while treating of them as members of the fauna of France, than has been done by British authors. But neither the conchologists of France nor of Britain have worked out the distribution or representation of the European genera and species, and the resulting phenomena, in other parts of the world.

The bent of a long experience in foreign conchology, has led me to the study of our native Land and Freshwater Mollusks with especial reference to their relation with those of other countries. The genera of our own latitude are in this Work collated with the similar or representative genera of other latitudes. The species are regarded in their true character of an outlying fragment of that great province of distribution, elsewhere called the Caucasian Province, which has its centre of creation on the confines of Europe and Asia Minor, and extends on either side from Finland to North Africa, and from Arctic Siberia to the Himalayas.

With the hope of making the work useful to Collectors of Shells, as well as to observers of the external characters and habits of the mollusk, figures are given of the shell of each species (the upper one when in outline representing the natural size), engraved from drawings on wood by Mr. G. B. Sowerby; and a vignette of a living animal of each genus, drawn and engraved in most instances from nature by Mr. O. Jewitt. Three years have been devoted to collecting living specimens. Where these could not be obtained or delineated, recourse has been had to some figures of M. Moquin-Tandon, and to some unpublished drawings obligingly placed at my disposal by the Rev. M. J. Berkeley.

The very characteristic portrait of Citoyen Draparnaud prefixed to the volume, has been engraved on steel by Mr. W. Holl, from a photograph of a scarce print in Paris, which, I have reason to believe, is the only likeness extant of the renowned but short-lived Professor of Montpellier.

From the 'Geologist.'

One thing must be admitted of Mr. Reeve's books: they are always got out with great care and taste. The volume before us is another example, and is typographically, and in size, paper, and illustrations, the *beau idéal* of what such a book should be. It is of most handy and convenient size, clearly printed, and illustrated with very characteristically and very nicely executed woodcuts. The matter is also good, and very conveniently arranged. First, is an Alphabetical List of Species, then a Systematic List, followed by an Analytical Key, displaying at a glance the natural groups into families and genera, and the characteristic features of each species. A map of both hemispheres shows the boundaries of the Caucasian province, over which the British species range, and the position of this area in respect to other areas, and the general terrestrial system. After a brief description of the appearance, condition, and extent of the British fauna, we pass on to some 240 pages of descriptive matter, giving the accepted names of each species, its synonyms, and its characters and habitats. The concluding chapter of Mr. Reeve's book, "On the Distribution and Origin of Species," will be read by the practical geologist and naturalist with much interest. A complete bibliographical list and an excellent index complete this useful volume, which will doubtless, and deservedly, find a proper place in most naturalists' libraries.



From the 'Athenæum.'

The illustrations generally exhibit the highest excellence of wood-engraving as applied to natural history. We would more particularly refer to the drawings of animals as, without exception, surpassingly life-like and beautiful. The peculiarity, however, in which this publication differs, and differs favourably, from all others, is the information it contains on the geographical distribution, in other parts of the world, of the species indigenous to this country, and the relation which this distribution bears to climate, soil, and other local circumstances.

ELEMENTS OF CONCHOLOGY; an Introduction to the Natural History of Shells
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From the Preface.

To guide the Collector in arranging his specimens, I submit a classification, on the Lamarckian System, of the Genera, each with its list of Species; and to lead him to meditate, whilst pondering over the treasures of his cabinet, upon the too little remembered fact of their once living existence, a description is given of the structural peculiarities and habits of the animals. For figures of shells, with the live mollusk, I have resorted chiefly to the zoologies of exploring expeditions, published under the auspices of the French Government. The figure of *Spirula* is, however, an original one, from a specimen captured at Fort Nicholson, New Zealand, by Mr. Percy Earl; and so also are those of *Carinaria* and *Panopæa*, from specimens collected by the Rev. L. B. Larking, during a residence at Messina. The latter powerful mollusk he kept alive in vigorous health in a washing-tub. For information on the interesting subject of geographical distribution I am mainly indebted to the retentive memory and careful notation of habitats, during fourteen years of enterprising personal research in both the western and eastern hemispheres, of Mr. Cuming.

It is not so much for the zoologist as for the 'collector of shells' that the work is written.

There are forty-six plates of Shells, illustrative of the Genera, and sixteen plates of Shells with the Animals, illustrative of the life of the Mollusk, all beautifully coloured.

From the 'Critic.'

Mr. Lovell Reeve has provided entertainment for those who collect shells and also for those who study the manners and customs of shell-fish. In the 'Elements of Conchology,' which has been coming out in numbers for some time, and is now completed, he has given us figures and descriptions of the principal *genera* of shells, with lists of all the *species*, and has besides devoted considerable space to the structure and habits of molluscous animals, a portion of the plates being reserved for their representation. The arrangement professes to be that of Lamarck, but it is in reality a considerable improvement upon that famous system, which is the foundation of all our modern treatises.

CONCHOLOGIA SYSTEMATICA, or Complete System of Conchology. With 300 coloured plates of Shells, including about 1500 Species. Two vols. 4to. Price £8. 8s.

From the Preface.

My object in the foregoing arrangement has been to carry out as closely as possible the general views and intentions of that great conchologist, Lamarck; his genera have been for the most part adopted, and only such alterations and additions have been made in the nomenclature and relative distribution of these animals as the progress of science has rendered necessary.

The illustrations have been kindly contributed by the Messrs. Sowerby; two hundred plates are selected from the 'Genera of Shells,' fifty from the 'Conchological Illustrations,' and fifty are new.



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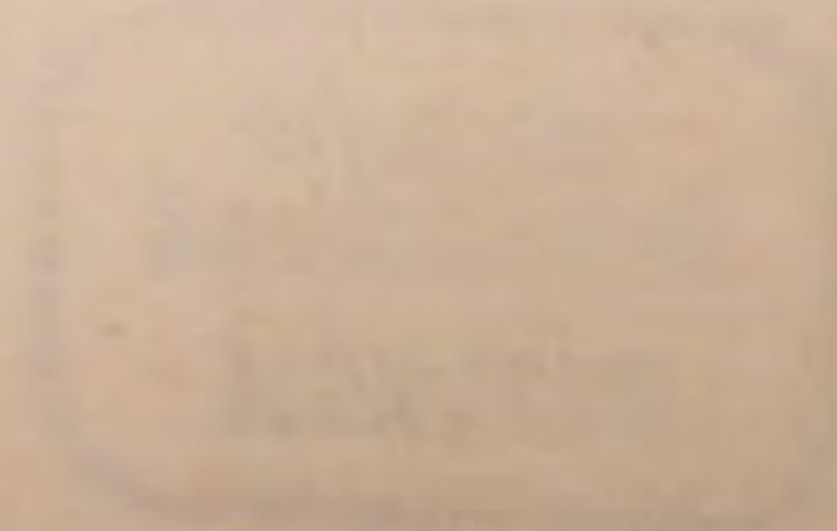
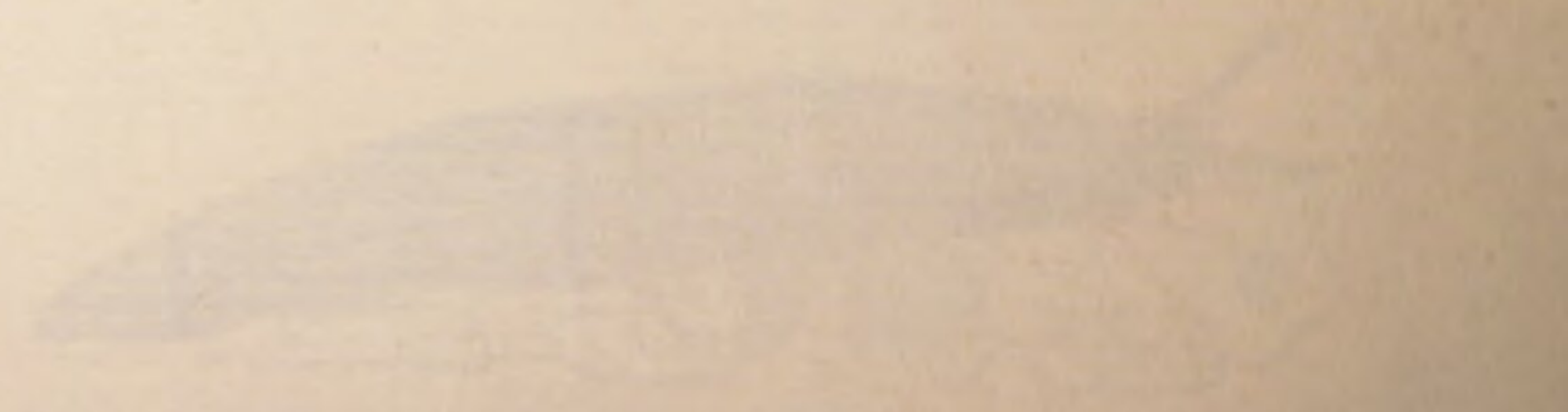
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